

OCT 1 1924

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AMERICAN ARTISAN and Hardware Record

Vol. 88. No. 13. 620 SOUTH MICHIGAN AVENUE, CHICAGO, SEPTEMBER 27, 1924. \$2.00 Per Year

Which would you rather do?

Put up a temporary job that will have to be done over again in a few years—perhaps by a competitor—

Or

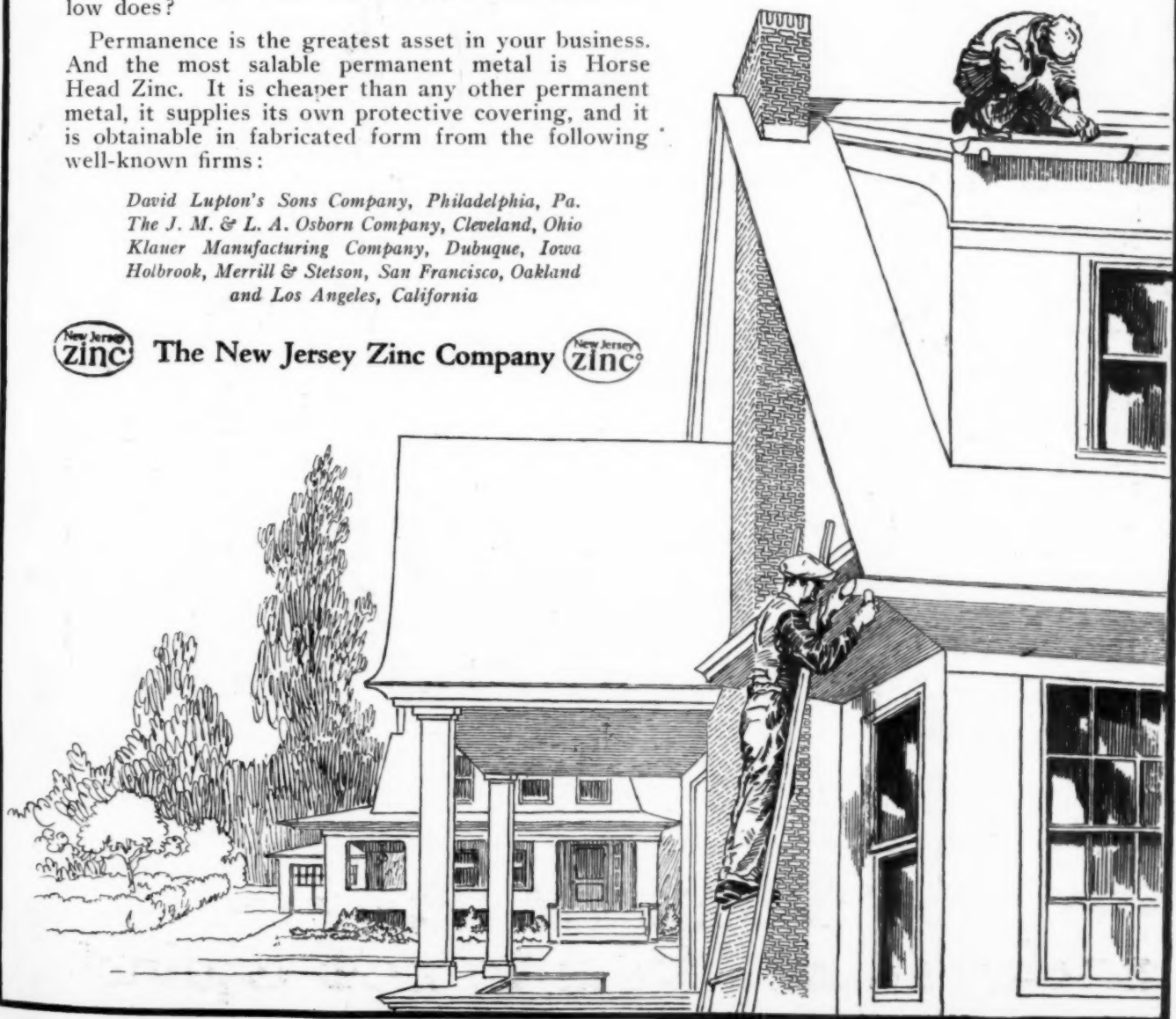
Put up a permanent job and get the replacement work on the worn-out temporary jobs the other fellow does?

Permanence is the greatest asset in your business. And the most salable permanent metal is Horse Head Zinc. It is cheaper than any other permanent metal, it supplies its own protective covering, and it is obtainable in fabricated form from the following well-known firms:

David Lupton's Sons Company, Philadelphia, Pa.
The J. M. & L. A. Osborn Company, Cleveland, Ohio
Klauer Manufacturing Company, Dubuque, Iowa
Holbrook, Merrill & Stetson, San Francisco, Oakland
and Los Angeles, California



The New Jersey Zinc Company





Above views show the well-arranged display floor and business-like exterior of C. W. Peters & Sons "dependable heat" headquarters at Lewistown, Pa.

Ask C. W. Peters & Sons "Do Mueller Furnaces Sell?"

THIS Mueller dealer, in Lewistown, Pa., sold 33 Mueller Furnaces in a recent 10-day demonstration.

Have you ever equalled or exceeded this record?

The plan which netted C. W. Peters & Sons 33 furnace jobs in 10 days, was developed with the help of the Mueller salesman, who followed it through to a highly successful conclusion.

Since last March this dealer has ordered 64 Mueller Furnaces. All this in an average city of 2507 families!

When a good dealer gets behind Mueller Furnaces, backed by sales co-operation such as the L. J. Mueller Furnace Company renders, sales are sure and profits worth-while.

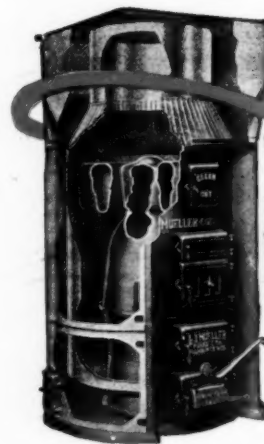
The opportunities for the sale of Mueller Furnaces in your town are undoubtedly just as good as in Lewistown, Pa. Our selling plan will interest you.

L. J. Mueller Furnace Co.

Makers of Warm Air, Steam, Vapor and Hot Water Heating Systems, Registers, Pipe, Furnace Fittings, etc.

193 Reed St. Milwaukee, Wis.

Warehouses: Brooklyn, St. Louis, Detroit, Boston, St. Paul
Minneapolis, Baltimore, Seattle, Salt Lake City



Mueller Convactor—wide, straight air passages that assure gentle, full-volume heat circulation. 100,000 satisfied users.



Mueller Double Radiator Furnace—a self-cleaning, warm air furnace with more direct heating surface than any other furnace of equal size fire-pot.



MUELLER FURNACES

— dependable heat —
easier to sell than to sell against

Founded 1880 by Daniel Stern

Published to Serve
the
Warm Air Furnace
Sheet Metal, Stove
and
Hardware Interests

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RELATIONSHIP BETWEEN A MAN AND HIS JOB

A MAN'S job is his best friend. It clothes and feeds his wife and children, pays the rent and supplies them with the wherewithal to develop and become cultivated. The least a man can do is to love his job. A man's job is grateful. It is like a little garden that thrives on love. It will one day flower into fruit worth while, for him and his to enjoy.

If you ask any successful man the reason for his making good, he will tell you that first and foremost he likes to work; indeed he loves it. His whole heart and soul are wrapped up in it. His whole mental and physical energies are focused upon it. He walks his work. He talks his work; he is entirely inseparable from his work, and that is the way every man worth his salt ought to be if he wants to make of his work what it should be, and makes of himself what he wants to be.

ALPHABETICAL INDEX AND CLASSIFIED LIST OF ADVERTISERS, Pages 44-46-48.

Anaconda

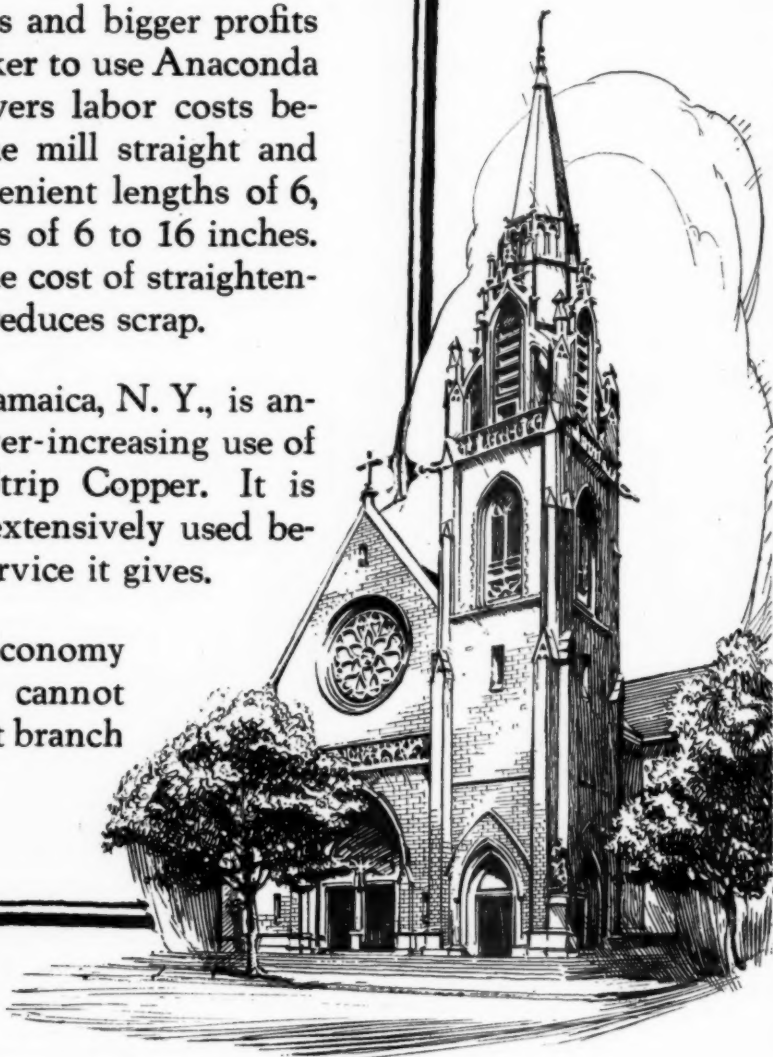
Economy Strip Copper gives you bigger Profits!

It means better business and bigger profits for the sheet metal worker to use Anaconda Economy Strip. It lowers labor costs because it comes from the mill straight and flat as a board in convenient lengths of 6, 8, 10 feet and in widths of 6 to 16 inches. This does away with the cost of straightening and cutting and it reduces scrap.

St. Mary's Church at Jamaica, N. Y., is another example of the ever-increasing use of Anaconda Economy Strip Copper. It is being more and more extensively used because of the superior service it gives.

Figure on Anaconda Economy Strip. If your jobber cannot supply you, write nearest branch listed below.

St. Mary's Church, Jamaica, N. Y.
Roofed with Anaconda Economy
Strip Copper. Architect—
Gustave E. Steinback. Con-
tractor—August Kuhnla, Inc.,
Brooklyn, N. Y.



THE AMERICAN BRASS COMPANY

GENERAL OFFICES: WATERBURY, CONNECTICUT

New York, Chicago
Boston, Philadelphia, Providence
Pittsburgh, Cleveland, Detroit
Cincinnati, St. Louis, San Francisco



Mills and Factories:
Ansonia, Conn., Torrington, Conn.
Waterbury, Conn., Buffalo, N. Y.
Hastings-on-Hudson, N.Y., Kenosha, Wis.

In Canada: ANACONDA AMERICAN BRASS LIMITED, NEW TORONTO, ONTARIO

Rogers Was a Banker Seven Years Ago, But He Sells Lots of Furnaces Now.



FLOATING with the stream is often thought an easy way of conducting a business.

But if the stream is sluggish, one does not get ahead very fast.

It is only the man who actually "swims" that gets anywhere.

Selling a furnace now and then to a man who tells you that he is in the market for one, is like floating with a stream—you will never make much of a furnace dealer of yourself that way, nor will you ever make any considerable profit out of your furnace "business."

As a matter of fact you haven't any real furnace "business" in that case, for some day the manufacturer of the furnace you have been "handling" (that word certainly fits the case) will come to the same conclusion that the company did which is mentioned on pages 19 and 20 of last week's issue of *American Artisan* and will hook up with somebody who is willing to do a little real "swimming"—and then your "business" will most likely be something of the past.

And do not forget that furnace installation is something that can be learned comparatively quickly—the technical part, we mean—and that workmen can usually be hired when needed.

So there is nothing to prevent Tom, Dick and Harry, who today may be clerking in a bank or selling socks, or driving a truck, from going into the business of "selling" furnaces.

As a matter of fact, this is happening every day. The so-called direct installers hire men to "sell" furnaces and other men to install and all the "sellers" have to do is to learn the basic information about figuring a job—both the size of the furnace and its accessories and the price that the job is worth. Some of them "make so good" that they become a sharp thorn in the side of the installer-dealer who

is unwilling to do any real selling, but in cities where the regular installers are on their toes these "made-to-order" salesmen do not do so well. Ask Otto Geussenhainer, Sheboygan, Wisconsin, or Gus Krach, Erie, Pennsylvania, or hundreds of others. They will tell you that while, of course, you must know how to install furnaces right the chief thing is to sell enough of them to make the business worth while, for yourself as well as for the manufacturer.

One of the chief points in this matter of selling is to really "believe" in the furnace that you "handle"—then you will "sell" it and sell a lot.

"I well remember," said Mr. Rogers, "how well satisfied I was with my first heater, and I knew that if the people I sold would be as well satisfied as I was, I would have a whole lot of salesmen working for me unconsciously."

There is the meat of the whole story—

Believe in what you sell; see that a good job is done on the installation and—make use of that satisfaction in your canvass.

But put forth real effort whenever you attempt to sell a furnace.

Otherwise it will matter very little how much you know about installation.

You will not get enough jobs to prevent you from getting rusty.

And in the meantime the "selling" furnace installers will be taking jobs away from you by the dozen and probably get more for them than you would dare to ask.

* * *

October ninth has been set by President Coolidge for the observance of National Fire Prevention Day, and every sheet metal contractor owes it to himself to tell people at this time why sheet metal excels as a fire retardant and preventative.

Random Notes and Sketches.

By Sidney Arnold

The other day when I was visiting at the Detroit office of the American Rolling Mill Company, "Newt" Pierson, the well known manager, told me the following story:

A crowd of loungers had assembled at the corner of the street when an excited little man suddenly rushed up, and, waving his arms wildly, exclaimed:

"Who was it that I heard call my wife an ugly old hag?"

There was silence for a moment. Then a large, muscular, hefty man stepped to the front.

"I did," he said defiantly. "Wot about it, mister?"

The little man held out his hand and exclaimed meekly:

"I admire your pluck. Shake. I have had the same opinion for years, but I have never dared to tell her."

* * *

I was visiting with Joe Burgess in his office at Rock Island the other day and while we were looking at the new register that he is getting ready he pulled out a pocket knife that looked as if it had seen considerable service.

"There is a story about this knife," said Joe. "About fifteen years ago when I was selling Weir furnaces, I was in an Iowa town helping our dealer with a couple of tough customers, and after we had made the second sale—late in the afternoon—the dealer presented me with this knife.

"Two years ago I was in Des Moines when I saw this same dealer. He did not recognize me at first, as it had been more than ten years since I had called on him, but when I pulled out that old knife he was interested and shortly after he found my name in his memory box, and then he told me of another knife that he had given to a customer many years ago. It was brought to him by a young man who, with his bride, had driven through two good towns to come to his store to buy

their kitchen outfit and other household articles. The young man was a grandson of the old-time customer and the grandfather had advised the boy to go to that store, because 'Mr. Jones always treated me right, and you just show him that knife and tell him who you are.'

It pays to treat customers fairly, and a useful souvenir frequently brings unexpectedly good returns.

* * *

Every stove manufacturer who has ever attended a convention of that industry knows and likes "Charlie" Matthews, vice-president of Ireland & Matthews Manufacturing Company, for he has been making and selling stove trimmings since 1873—more than fifty years.

Well, anyway, Charlie never told me whether it was the idea that two can live as cheaply as one or that he entered business at that time, but he



Mr. and Mrs. Charles H. Matthews on Their Golden Wedding Day.

put himself into double harness on September 24, 1874, and so there was a celebration at the "Pasadena" in Detroit, Michigan, in honor of the event, where he and Mrs. Matthews were the guests of honor.

They do not look as if life has been very hard on them, and I am

inclined to think that they have had a pretty good time together traveling down life's pathway for these fifty years, and here is hoping that Mr. and Mrs. Charles H. Matthews may have many more enjoyable and happy years together.

* * *

While Bill Laffin, of the TeeBee register folks, was attending the American Legion convention in St. Paul he went into a restaurant on Sibley Street for breakfast and ordered his usual "ham and."

Somehow there seemed to be something peculiar in the air after he had been served and Bill called the colored gent:

"Waiter, are these eggs fresh?"

"I dunno, sah! Dey ain't said nuthin' to me."

* * *

Louis Luckhardt, the Pittsburgh sheet metal contractor, has two Irishmen working in his shop, answering to the names of Hogan and Kelly.

There had been a row in the works and two other men were discussing it.

"And what did Hogan say when Kelly called him a liar?" asked one.

"Not much."

"Why, that's funny," said the first. "Hogan used to be a mighty hot-tempered fellow."

"Well, he never said a word, except 'Have ye had enough yet?'"

* * *

There was one of these "Tag Days" recently in Chicago, and it was interesting to note the difference in the manner of "approach" the good women employed.

The "tag" was in the shape of a heart and it was cut out of red cardboard. On one side the words, "Have a Heart," were printed.

Some long faced person would stand at her station and repeat, "Buy a tag," occasionally stopping to pass one over to an easy customer. In the same block a pleasant faced woman would greet you smilingly with, "Have a heart, won't you?" She was kept busy, believe me!

And aren't men very much like these two kinds of women?

Charles W. Peters Sells Sixty-Six Furnaces in Six Months in City of 2,500 Families.

Half of Them Were Sold During Ten Days of August, After Active Selling During Summer.

IF SOMEONE should tell you that he had sold and installed thirty-three warm air furnaces between the middle of March and the last of July this year in a town of 2,500 families you would probably say that he was a pretty good salesman and that he had done a good job for 1924—and you would be quite right.

But what would you say if you were told that this same man had followed this campaign up with a two weeks' demonstration and sold thirty-three more?

Some of our friends who say that "there is nothing to that intensive selling stuff," would probably maintain that it wasn't true, but we have the facts to back up our statement.

C. W. Peters & Son runs a furnace, sheet metal and plumbing shop in Lewistown, Pennsylvania, and did sell sixty-six Mueller warm air furnaces just as we said in the foregoing.

But he did not sell these sixty-six furnaces by sitting in his shop and waiting for people to come in to tell him that they wanted to buy a furnace.

Nor did he sell these sixty-six

furnaces by trying to underbid every one else in town. No, Charlie Peters went out after prospects. He located some and he kept talking Mueller furnace quality and Peters' service to them, with the result that



Charles W. Peters and the Good Looking Front of His Furnace and Sheet Metal Shop in Lewistown, Pennsylvania.

the prospects developed into actual buyers of Mueller furnaces.

And he sold sixty-six furnaces in less than six months of a Presidential year—a period when some people say it is hard to sell anything in any volume—just as if people did not have to eat, clothe themselves

and keep comfortable in Presidential years as much as when Bryan isn't running for office!

Maybe there is something in a name, after all.

Peters means "Rock," but evidently the name does not indicate what there is inside of his skull.

And he does business at 423 Electric Avenue, Lewistown, Pennsylvania. That must be it: "Electric!" That name may have made him get a hustle on.

At any rate—he sold sixty-six furnaces in six months of a year when many folks profess to believe that it is hard to sell anything. What would he do in a boom year?

But, after all, it isn't so much that he sold these sixty-six furnaces in six months as the fact that he was not content with taking things as they come—he had gumption and initiative to go after business!

That is why he sold these sixty-six furnaces.

How did he do it?

There was nothing particularly spectacular about his method.

He did a bit of advertising in his local papers.

He got some inquiries from these advertisements.

He followed them up with real salesmanship talks and demonstrations.

He kept tab on the new houses that were being built.

He made friends with the coal dealers. If any of their customers



Sales Room in the Shop of Charles W. Peters, 423 Electric Avenue, Lewistown, Pennsylvania.

complained about poor heat he got their names.

That is how he sold the first thirty-three furnaces—one carload.

Then he arranged with C. L. Hewitt, the Mueller Furnace Company's salesman in that territory, to have him come and help him on the grand windup and they had a "Furnace Demonstration" lasting during the first two weeks of August, fea-

turing the fact that the "Factory Man," Mr. Hewitt, would be with him for two weeks to advise house owners on heating problems.

As a special inducement, Mr. Peters offered a prize of one hundred dollars in cash, to be awarded on the last day of the demonstration, just before closing hours at night.

Customers had the choice of paying cash, or regular credit or the

Mueller Easy Payment Plan, which provided for a whole year to pay.

By means of an ingenious plan, evolved by the sales promotion department of the Mueller Furnace Company, a lot of prospects were secured and followed up by personal calls.

Mr. Hewitt, the Mueller salesman, did not stand around and look wise. He took an active part in the follow-up work and as a result thirty-three furnaces found their way from Peters' shop into homes of Lewistown.

This has been a poor year, according to some furnace installers:

First, "the weather was against us."

Second, "people are holding off because of the election."

Third, "building has dropped off."

Fourth—almost any other excuse that comes to mind.

But, Charlie Peters sold sixty-six furnaces in the six months, from March to August, and he is not through yet.

How many are you going to sell before real cold weather sets in?

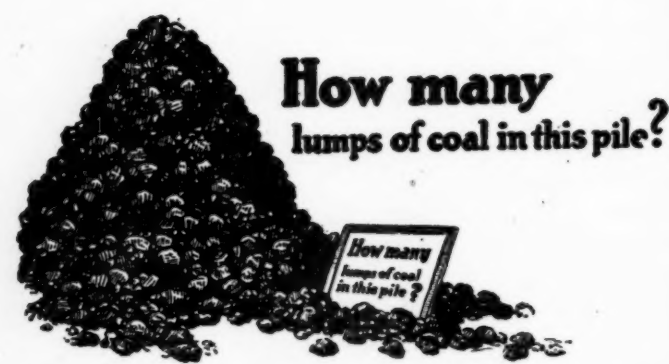
That is really the important point to this story. For if you fail to get any inspiration out of this simple citation of facts this article might just as well not have been written.

But we hope that you will say to yourself: "That fellow Peters did not have any magic to help him, and he is not a bit smarter than I am—he is not going to show me up; I am going out to sell Mrs. Smith the furnace she has been talking about buying the last six weeks, and I am going to sell it this day."

We know you can do it. All it takes is a bit of determination—and you have a good bit of that, or you would not be in the furnace business.

Linking the Silver Threads of Memory with the Golden Threads of Hope.

After the day's work, in the quiet night, sit carefully relaxed and silent. With the silver threads of memory and the golden threads of



Get a Ton Free!



Mueller Double Radiator Furnace

Someone is going to be given a ton of hard coal, absolutely free, during our special Demonstration Week. It might as well be you, don't you think? If you can get a ton of coal FREE by simply coming into our store and asking how it can be done, wouldn't you be well paid for the effort? But remember it is only during this week that you will be able to get this FREE TON OF COAL. Don't put off investigating; better come in today. You may receive free, enough coal to heat one room all winter without a penny's cost to you.

Buy Dependable Heat This Easy Way



Famous Mueller Convector

How many luxuries or household utilities have you bought on the Time Payment Plan? A sewing machine, vacuum sweeper, talking machine or automobile—all put within your reach by your credit. If your credit is good at your furniture dealer's, why isn't it just as good with your furnace dealer? During this Special Demonstration you may order your Mueller Furnace and pay only TEN PER CENT. of the total installation cost. We will install it in your home at any time convenient for you—either now or later. You will have Mueller Dependable Heat in your home all winter, with a whole year to pay for your installation. Think of that—TEN PER CENT. as a first payment, and a year to pay the balance!

C. W. PETERS & SONS
Lewistown, Pennsylvania

hope, weave a fabric of wholesome dreams. If you are old, perhaps you will tell yourself of by-gone happy times with friends—maybe with friends—maybe with someone you loved. If you are young you will paint a picture of the dream of hope and as you sit in the quiet

night, you will be the thing you yearn to be, sail the seas you yearn to sail, and know the love your heart would know. And on the morrow when you build in the world of contending things, you may make a thing that is real of the picture of your dreams.

Harry Hussie Urges That Standard Code Be Made Part of Building Laws.

Every Manufacturer, Installer and Wholesaler of Furnaces Should Work Aggressively Toward That Goal, He Says.

OUR good friend "Harry" Hussie reads AMERICAN ARTISAN very carefully every week, and sometimes he disagrees with us, and sometimes he pats us on the back when we say something that agrees with his ideas and rich experience.

In the letter which follows, Mr. Hussie expresses his approval of an editorial we published in our September 13th issue and he also points out that in order to have the Standard Code for Installation of Warm Air Furnaces in Residences become as useful as possible, all who have money at stake in the making, selling and installing of warm air furnaces should strive their mightiest to have this code incorporated in the building laws of every city and town in the United States:

Mr. Hussie's letter follows:
TO AMERICAN ARTISAN:

Your editorial on page 19 of your September 13th issue is, it seems to me, worthy of more than ordinary recognition by the furnace men of the country.

The standard furnace code is a good and safe rule for the proper installation of warm air furnaces in dwellings.

We may meet with installers who believe they can improve on it in some way and they may be right at that, but certain it is, that a furnace installed strictly according to the code, will be a mighty good job and 'way above the average.

Every manufacturer, jobber and installer of furnaces owes it to the public he claims to serve, to make every effort to have the code incor-

porated into the building laws of every town and city in the United States. When your correspondent says that he believes every furnace installation should "be made a personal one with every contractor," I believe that he is right. That is, if I understand him to mean that each job should be considered as problem by itself and figured according to conditions and facts surrounding such case. In other words, it is not safe to assume that because a house is about the same style and size, the job should be installed the same as another.

This, however, does not prevent the installer from using the standard code on every job and in every part of the job.

When we attended the little red school house, each example in our book was a problem by itself, but that did not mean that it required a different rule or that the multiplication table was not the correct method to use.

A certain clear thinking writer once said, "The Declaration of Independence standardized opportunity, not men," and so it is with the standard code which has standardized furnace installation, but which makes no attempt to standardize ingenuity or limit progression.

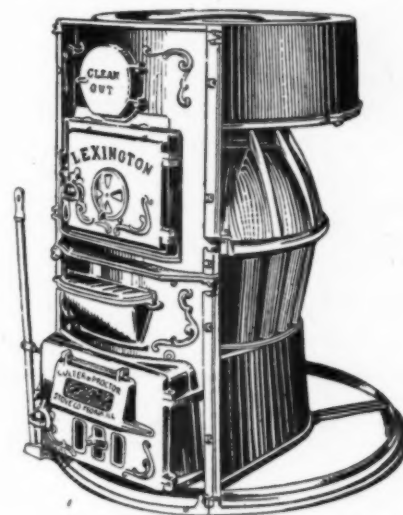
Please keep it up, sir, until we have the code widely known and used, and by all means encourage any man, either manufacturer or installer, who is able and willing to improve it.

Yours very truly,

JOHN H. HUSSIE.

Lexington Warm Air Furnace Has Many Attractive Selling Features.

The Lexington warm air furnace, a sectional view of which is shown herewith, has long been known as one of the few furnaces that are made from iron free from scrap, and the manufacturers have so much faith in their product that they guarantee all castings for a



Sectional View of Radiator, Dome and Firepot of Lexington Furnace.

period of five years, against warping or fire cracking (except the grate).

One of the latest improvements is the patented glass section of the ash pit door, through which the person attending the furnace can know positively when to stop shaking the grate and thus save materially on the fuel as well as avoid a lot of dust in the basement.

Further information about this good furnace may be obtained by writing to the Culter & Proctor Stove Company, Peoria, Illinois.

It Is Easy to Find Your Man If AMERICAN ARTISAN Is Helping Your Hunt.

TO AMERICAN ARTISAN:

Please stop my want ad. Your paper certainly has a great circulation, as I received replies from all parts of the country and found a good man not far from here.

J. G. PRITCHARD.

Clinton, Iowa.

Do You Recognize Yourself in Any of the Pictures Drawn in This Article?

The Instances Cited in the Following Are Actual Observations Made in Sheet Metal and Furnace Shops.

DURING the months of July and August a manufacturer of warm air furnaces took his vacation in an unusual manner. He had for years spent most of his time in the factory and office end of his company and previous to that had sold furnaces on the road.

Right after the Fourth he filled his roadster tank with "gas" and put a suit case filled with advertising matter on his furnaces in the "turtle" and hit the road.

He was not interested in making any large mileage per day. When he struck a town, he would look up

among the installers, the manufacturers, the salesmen or any other class — write us on the points brought out by this manufacturer:

"One of the things that struck me in a most unfavorable manner," said Mr. J., as we shall call him, "was the uncleanly and badly appearing places of business that so many of them presented.

"There was a time when people thought that hogs thrived on dirt, but the real hog raisers keep their pens as neat as a pin—because they have found by experience that there is less danger of disease and more

that is beyond me. It would seem to me that an office should be a reasonably clean and bright place in which a prospect might be asked to sit down to tell his story and listen to yours without feeling that when he emerged on the street again he would look as if he had gone through a rug beating establishment, as was the case several times on my trip.

"And while we are on the subject of daylight and cleanliness in general, let me point out that in almost half of the places that I visited, the windows looked as if they had been washed last year and then left severely alone, except for some mark made on them by mischievous youngsters. Of course, if the installer wanted to keep people from knowing what he or his men were doing the windows were just right, but why not clean the glass and arrange a furnace, some registers, etc., with suitable show cards and posters, such as are furnished in great abundance by many manufacturers? Once in awhile somebody might be induced by the display to come in and there would be an added prospect or even possibly a real buyer.

"I have often wondered why so many furnace installers stick to the word 'Tinshop' on the sign for their place of business. The modern furnace installer and sheet metal contractor is so far above the old time 'tinner' in business standing and responsibility that it would seem to me that he ought to discard that old sign and replace it with a new, clean, bright sign with some such inscriptions as shown herewith.

"Too many furnace installers give one the impression that they are ashamed of their business, and yet—what more honorable work can a man do than to provide the means by which his neighbors are enabled to live in comfort.

"And this brings me to another phase of the furnace installers' attitude toward his business:

"I had made arrangements to go out with one of our customers to call on some prospects and when I appeared after lunch at his shop he was working one of the big shears,

We Install Real Heating Plants

JOHN CULLERTON

SHEET METAL WORK OF ALL KINDS

the furnace installer who sold his furnaces and if there wasn't any, he would find out who was selling furnaces of some other kind.

In either case, he would introduce himself as "The President of Blank Furnace Company" and so far as possible yet a close view of the local situation—how the installer regarded his furnaces and how he regarded the possibilities for making business.

And after he had spent nearly two months covering a territory consisting of six states and reaching over 400 miles from north to south and nearly 1,000 miles from east to west, he returned to his office with his ideas considerably changed on some things and strongly confirmed on others.

In this and other articles to follow we shall present some of this furnace manufacturer's views (for obvious reasons, his name will not be mentioned) and we shall be glad to have any of our subscribers—

real profit when the sties are well taken care of.

"If there is any good reason why a prospective customer can be brought to the point of buying quicker in a dirty shop, I have failed to find it, and I do know that I scuffed a perfectly good pair of new tan shoes so badly on a piece of scrap on the floor of a sheet metal shop that they will show the scars until the day I discard them, and they were expensive enough, Goodness knows.

"It certainly does not take long to sweep the shearings together, throw them into a scrap bin and sweep the dirt off the floor once or twice a day, and customers will not be annoyed or have their footwear damaged if that is done.

"Of course, the workmen need all the daylight they can get and many of them require electric light besides, but why the darkest corner of the shop should be picked for what was called the office is something

cutting off a piece of 'iron.' He gave me the 'high sign' and yelled that he would be with me in a couple of minutes. Presently he came up pulling his coat over an old sweater, dirty, with years of toil, no doubt, but dirty for all that. Saying nothing, I let him jump into my car and we started off. At the next corner I asked which way to turn so as to get to his house.

"He looked at me wonderingly and finally asked: 'Why should we go there? The places we want to call at are in the other end of town.'

"'Because,' I said, 'you are going to call on some people to sell them a furnace and you are going to make the very best impression you can—and that cannot be done while you are wearing that old sweater and a pair of overalls. You are going to change your clothes if I am to help you on this sale.'

"He looked at me for a long minute, and I did not know whether he was getting angry, but finally he grinned and said, 'You know, I never thought of that. Just wait a little bit, or come in and sit on the porch.' He had a nice home and I met his wife, who was a pleasant and neat appearing little woman and who was good enough to invite me to have a home cooked meal with them that evening.

"As we were sitting on the porch after supper—and it was a good one—this installer said to me, 'You almost got me sore this noon, when you told me that you would not go with me unless I put on some decent clothes, but I see now that you were right, and I am going to follow that rule from now on when I go out selling.'

"People think no more or no better of you than you give them reason, and if you have no more respect for your business or for the customers whose business you want to get then you indicate by wearing dirty clothing when you call on them in regard to a sale they are not going to have much respect for you or for your business."

(To Be Continued.)

It pays to advertise regularly.

Frank Harrison Says That Cold Air Ducts Must Be Larger If Furnace Size Is Increased.

If This Is Not Done, Cracked Fire Bowls and Radiator Rings and Other Breakages Are Bound to Result.

THE following query appeared in the center of page 19 of our September 6th issue:

"A 22-inch horseshoe radiator furnace was removed and replaced with a 26-inch furnace of similar type.

"Should the cold air ducts be made larger?

"How much larger?

"Should the warm air pipes be larger?

"How much?

"What would happen if the cold air ducts remained as they were—just large enough for the 22-inch furnace?"

These questions are answered in a letter from Frank Harrison, proprietor of the Star Sheet Metal works, Kenilworth, Illinois, one of the Chicago suburbs on the North Shore, where well-to-do people have their homes, and where for that reason good furnace work must be done and can be done because that sort of people is willing to pay the price.

Mr. Harrison starts in by paying a few compliments to Harry Frye and his tank problem and then tackles the problem stated above:

TO AMERICAN ARTISAN:

After Mr. Frye's exposition of his tank problem, we can throw away our delicate drafting instruments and fine scales, our steel squares, tapes, dividers, etc., and cling only to our chalk lines and boxwood rules. We never knew their possibilities. Before his magic of string fade all difficulties that might arise, such as stretching a string tangent to a tank and then accurately locating its point of tangency, or constructing a minute right triangle that must of necessity be accurate to a micrometer test as to angles to be of use in computing for radii running into feet or possibly yards. He is really more Houdini like than Houdini himself.

However, mathematically, he should have explained how a^2 equals x^2 plus x^2 minus $2xm$. Everyone couldn't see that.

Well, now that the carnival has packed its tents and we've all had a good time, we should be able to go back to work with renewed vigor. Here is my solution to your furnace problem of recent issue under title of "How Much Larger?":

One thing is assumed as a condition to my reply, i. e., that the present heater is under capacity, but that the proposed one is of ample size.

Should the cold air ducts be made larger? Yes.

How much larger? Let's skip that question and come back to it.

Should the warm air pipes be larger? How much larger? The sizes of the warm air pipes bear no relation to the size of the furnace. They should be proportioned to the size of the rooms they heat by well established rules of heating. There is as likely to be a "robber" among them that would need cutting down. Therefore, revise the pipe sizes separately, up or down, according to good heating practice.

Now the cold air ducts. Increase them to fit one's rule of the proportion between warm air and cold air capacities.

What would happen if cold air ducts are not increased? That depends, but we might expect first, that the warm air and cold air not being properly balanced, one room or more being unfavorably located would not heat in certain weather. Secondly, the furnace would be "forced" to overcome this with the destructive effects of overheating. Excepting grates and grate parts, a high percentage, if not practically all breakages and warpings—cracked firebowls and radiator rings, broken lugs and warped steel plates—come from this overheating or from sud-

den checking or chilling of overheated furnaces.

Let's have some more of this stuff, ARTISAN. Not because it is something I feel I can answer, but because it comes in small, simple doses. The furnace craft is ill. It needs careful treatment, and no good doctor—unless he be an anti-Volsteadopath—would prescribe his tonic to be taken by the bottle full. He directs it by the spoonful instead. A hundred principals of furnace installation set forth in such a way, one or two at a time, will do more good to more people who need to know them, than the same number of principles formidably arrayed in one article. Long winded technical articles are not as often read through, and much less often thoroughly assimilated.

Please accept my tardy thanks for publishing previous article of mine, though seemingly of no avail either to Mr. Frye or to the fraternity that "estimates."

Yours truly,
FRANK HARRISON,
Kenilworth, Illinois.

GiltEdge Furnace Catalog Especially for Heating Man, Out.

The R. J. Schwab & Sons Company, Milwaukee, Wisconsin, makers of the GiltEdge furnace, have issued their 1924 GiltEdge furnace catalogue.

A perfection in lithography, it contains thirty-two pages 8x10½ inches exclusive of the covers, which are finished in a delightful brown color tone.

As to its material content, we will say that no space has been given over to the discussing of the merits of the various methods of heating. The book, in the words of R. J. Schwab & Sons Company, "Is written by a Heating Man for Heating Men." In this the writers of the catalogue have hewn to the line, giving the furnace installer informative data and ready reference regarding GiltEdge furnaces.

In addition a separate booklet has been prepared under the title, "The

Heating of Your Home." This pamphlet goes into the subject of heating from the standpoint of the intending purchaser. These can be had by mailing name and address to the company.

How Lieber Heating Would Eliminate Air Friction in L. H. K.'s Problem.

Subscribers to AMERICAN ARTISAN have been unusually active in submitting solutions to L. H. K.'s problem.

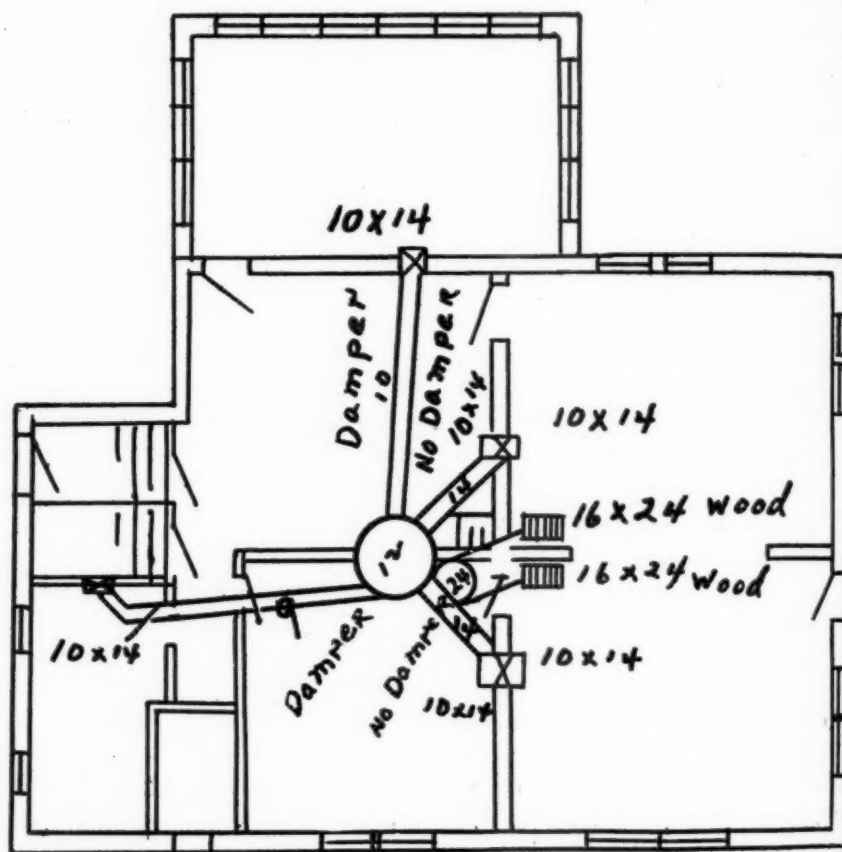
In our issue of September 20th, page 22, L. H. K. gave a rough sketch of the heating plant as he had

Walter Seelbach Is Elected Vice-President of Ohio Foundrymen's Association.

At the annual convention of the Ohio Foundrymen's Association, recently held in Cleveland, Walter L. Seelbach, secretary-treasurer of the Walworth Run Foundry Company, Cleveland, was elected vice-president for the ensuing year.

Enlarging His Knowledge of Business, Man Increases His Capacity to Do Business.

Where a man stops learning is the exact measure of the business problem he can handle, for no man



Arrangement Laid Out by Lieber Heating Company.

finally installed, giving the sizes of registers and pipes.

L. H. K. also expressed his appreciation for the help he had received from brother installers.

The Lieber Heating and Plumbing Company, Hartford City, Indiana, have submitted herewith a solution to the problem which they believe will cut out the friction and stimulate circulation on the L. H. K. problem.

can put into any transaction anything that he does not possess.

There must be in man's knowledge something that covers every element of his problem; otherwise all elements will not be solved.

As a man enlarges his knowledge of business he increases his capacity to deal with its problems.

The one-time advertiser always loses.

Making Pattern for Cold Air Furnace Boot Is a Fixed Proposition and Not Flexible.

Answering Inquiry of B. W. Butler, Truman, Minnesota,
O. W. Kothe Develops Entire Furnace Boot Pattern.

Written Especially for AMERICAN ARTISAN by O. W. Kothe, Principal, St. Louis Technical Institute, St. Louis, Missouri.

B. W. BUTLER, Truman, Minnesota, desires a pattern for a furnace boot. The accompanying drawing shows this development. By this treatment the angle of the boot becomes a fixed proposition and is not flexible for different usages. In this case we have a 90-degree turn with a 60-degree heel, while at our drawing W we have a 45-degree entrance with also a 45-degree heel. In practice a person will require two different patterns, one developed for the 90 and the other for the 45. It does not matter what angle you desire to make, the treatment will be similar, only in that the altitude will be different for the round base as we get off from the 90-degree. We first draw our side elevation, making the angle and length, as well as the height of boot, to suit conditions and then bisect for the miter line A-C. Next we describe the

plan, using the radius of the circle to give the arc E-F, and then we place the round circle in the position desired and divide in any number of equal parts.

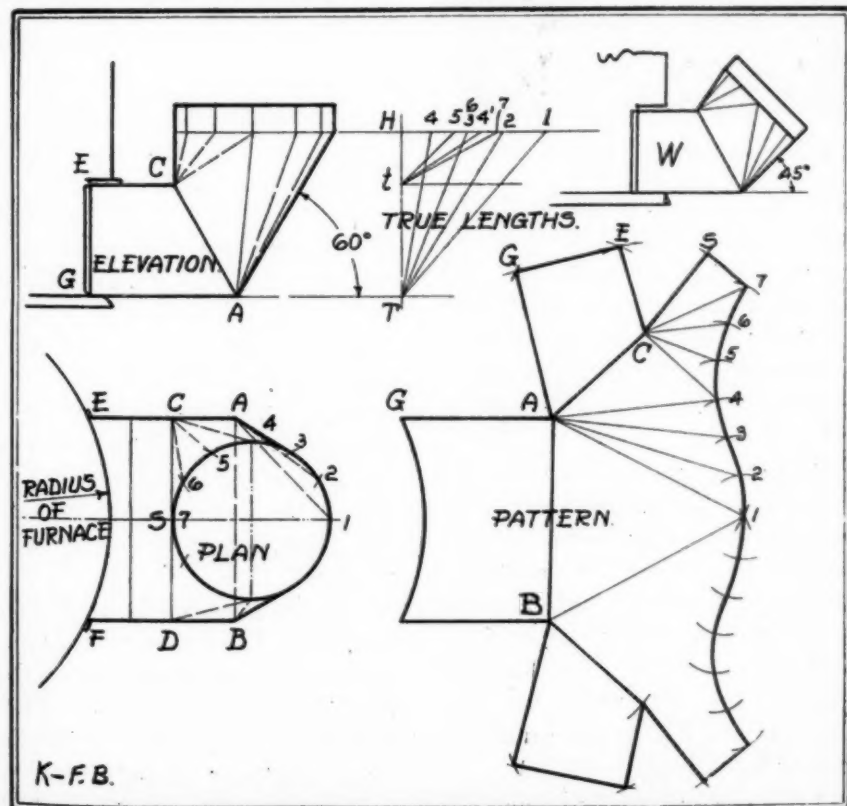
Draw lines to the corners A and C, as A-1-2-3-4 and C-4-5-6-7. Observe that the elevation has two different altitudes, the one taking care of the heel as the height of H-T, while the throat makes a shorter connection, as from H-t. So we pick our plan lines as A-1-2-3-4 and set as at H-1-2-3-4 and draw lines to T. Then pick lines from plan as C-4-5-6-7 and set as H-4'-5-6-7 and draw lines to t. These are then your true lengths.

So we draw a base line as A-B equal to that of plan and pick true length T-1, using A and B as centers, we strike and cross arcs as at 1. Next pick one of the spaces from plan, as 1-2, and use in point

1 in plan as center, strike arc as at 2. Pick true length T-2, and using A and B as centers, cross arcs as at 2. Repeat this for points 3 and 4 and then pick the miter line A-C of side elevation, and using A and B as centers, strike arcs as at C. Then pick true length t-4', and using point 4 in pattern as center, cross arcs as at C. After this develop points 5-6-7, using true lengths t-5-6-7. Then pick the half width as C-S, and using C as center strike arc as at S, then use the seam line H-t and cross arcs from 7 to S in pattern. This gives the outline for the transition piece and we can then add the straight parts for the bottom and sides as shown. The sides can be added in a triangular fashion picking the spaces from A-E of side elevation and setting as A-E in pattern. Then pick C-G and set as C-G and strike arcs, after this pick the heel and throat lines as A-G and C-E and set as A-G and C-E in pattern. This gives those side wings as shown. The top must be filled in extra, since this V-shaped S-C-E does not allow the throat to be added unless a small corner would be filled in extra.

In laying out a boot as at W, the same procedure would be followed, only different altitudes produced by the round base would be brought over to the altitude line H-T. This will make more work and require the watching of points more closely, but otherwise the treatment is similar. Edges for seaming must be allowed extra.

Increasing stock-turn makes the money invested in the business work harder and earn more, and reduces the shrinkage of values, which is always an important factor in merchandising.



Pattern for Cold Air Furnace Boot.

Irby Says That Proper Welding Makes Broken Part of Machine Stronger.

Writer Cites Instance of Two Breaks on Same Punch Press as Proof of Statement.

THE following article is contributed by J. F. Irby, Baltimore, Maryland. Mr. Irby calls attention to the fact that a broken part of a machine, properly welded, will be stronger than it was before the break:

There are few shop owners who are not faced, at one time or another, with the spectre of a shut-down because of damaged machinery. Thus the main point in the following incident should be interesting as typical of the wide variety of repair and reclamation work done by welding.

We may start with the statement that when broken equipment is care-

It does! But to answer the question most satisfactorily is to prove it.

Figure 1 shows a punch press frame, a gray iron casting weighing approximately two tons. A piece of



Where the Second Break Came.

metal too thick or tough broke the casting square off at the level of the table. The frame was cracked through a hollow rectangular section 19 inches wide by 20 inches deep, 6 inches thick at front, 1½ inches at the back and 2 inches thick at the sides.

After the edges were carefully veed and the frame accurately aligned, it was preheated by gas burners and a good welding job done by competent oxy-acetylene operators. The casting was carefully covered to protect it from any draughts during welding, and this covering was left in place until the casting had cooled.

After proper annealing the punch press frame was put back in service

and stood up under the work for a year. Then someone again fed it too big a bite and it went. Of course, the frame was sent to the same shop which had welded it after the first accident. It was again repaired and is shown in the second illustration, ready for another term of service.

The point in the story is not that one good job deserves another, or that the competent welder is an ever ready help in time of trouble, but that the second break did not run through the old weld. This was left unharmed. Nor was the new break in the region preheated for the old weld. It was in the crank bearing four feet away, thus demonstrating the original proposition, that a second break in a properly made weld need never be feared, because it holds.

Pattern Drafting Books for Beginners Prepared by David A. Graham.

David A. Graham, instructor of sheet metal work, New York Public Schools, has prepared for publication a course of study of sheet metal pattern drafting for students in sheet metal work in five parts, parts 1 and 2 having already been taken from the press.

Each book of the series is 7¼x 9½ inches over all, with 32 pages. Each page comprises one plate. The subjects treated in part No. 1 deal with elementary sheet metal work, chimneys and roof flanges, gutters and leaders. Part 2 takes T's, Y's and elbows and heating and ventilating work.

Mr. Graham has had long experience in teaching the subjects and the course outlined herewith is the result of his experience, observations and good judgment in matters of this kind.

Of course, a proper order is maintained throughout so that the student will not be doing problems that are too far advanced for his skill and experience. They can be used by an instructor in class work.

It was thought unnecessary to accompany the plates with text mat-



The First Break After Welding.

fully repaired with a reinforced oxy-acetylene weld it is stronger at the repaired section than it was originally. Some skeptics might say, "Yes, probably," or "Undoubtedly, in laboratory tests, but does the same hold good in practice?"

ter, as the logical progression in sequence from the simple to the more complex problems is believed to be sufficiently plain to permit of their grasp by the student.

Copies are available at 50 cents through AMERICAN ARTISAN.

Joint Sheet Metal Cornice and Publicity Committee at Work.

That the joint committee on sheet metal cornices and educational publicity of the National Association of Sheet Metal Contractors is at work for better cornices is evidenced by the following letter sent to all locals: Dear Associates:

With your assistance, we expect to bring sheet metal cornices back into general use. Without your aid, very little can be accomplished.

We are now preparing a booklet showing properly constructed cornices. These are advance pages out of the Reference Book, being prepared by the Trade Development Committee.

These booklets should be in the possession of every architect, but if we mailed direct to them, many would be thrown in the waste basket.

To prevent this, they should be presented to the architect by you personally, so here is what we want you to do:

First, give us the name and address of every architect in your city and surrounding territory.

Secondly, appoint a committee of men who are acquainted with the architects, to assure proper consideration. This committee is to personally deliver the booklet.

Thirdly, keep an exact record of every book and report back to the committee how the architects have received it.

To obtain the best results, you must act immediately.

Please advise by return mail if we can depend on your help.

Also, next go after the work as though the entire task was up to you.

Come on, boys—get busy—show that you are interested in the sheet

metal industry and your own success.

Please address your letters to the committee at 112 North Institute Place, Peoria, Illinois.

Yours truly,
THE COMMITTEE.

Sheet Metal Contractors Are Urged to Tie Up With Observance of Fire Prevention Day.

Date Set by President Coolidge Is Thursday, October Ninth; Tell People That Sheet Metal Is Fireproof.

SECRETARY MOONEY, of the Sheet Metal Contractors' Association of Ohio, makes a splendid suggestion in the following letter which is addressed to the secretaries of the various locals of the state association.

His letter has to do with the observance of National Fire Prevention Day, designated by President Coolidge for Thursday, October 9th, the anniversary of the great Chicago fire:

The letter follows:

DEAR MR. SECRETARY:

President Coolidge has designated Thursday, October 9th, as National Fire Prevention Day and directs attention of public officials, civic bodies and newspapers to the importance of carrying on fire prevention activities in the schools, homes and industrial establishments.

We would suggest that the sheet metal contractors take advantage of this occasion to do some collective advertising, at low cost, of their fire preventing materials.

Take the initiative in interesting other civic bodies in the movement or go it alone as an industry: Decorate your establishments with banners that call attention to the importance of furnace inspection and repairs, fireproof roofs and other metal work. Put on a street parade of all your vehicles decorated with instructful banners.

It would be profitable to buy some display space in the newspapers and have your advertisement carry the names of your association and each of your members: Put your indus-

The committee on cornices consists of George Harms, Paul Brandstedt, George Thesmacher, Joseph Gardner and Harry Knisley. Committee on publicity consists of Paul L. Biersach, William Fingles, Louis Luckhardt and George Harms.

try before the public and hold its attention by continuous agitation.

Kindly write us about your participation in the movement.

Very sincerely yours,
The Sheet Metal Contractors' Association of Ohio.

GEORGE F. MOONEY,
Secretary.

Evidently AMERICAN ARTISAN Is Read by Many Contractors All Over the Country.

TO AMERICAN ARTISAN:

Kindly discontinue my advertisement in your valuable publication, as I have secured a good position.

I received a large number of replies from all over the country with many different offers.

Thanking you for your favors, I am

J. J. HERLICK.
Wimbleton, North Dakota.

Michael M. Riter, Jr., Well Known Tin Plate Manufacturer, Died Tuesday, September 23rd.

It is with regret that we announce the death of Michael Miller Riter, Jr., President of Riter Brothers & Company, which occurred early Tuesday, September 23rd, at his home in Ardmore, near Philadelphia.

Mr. Riter was a member of one of the oldest Philadelphia families and with his brothers had been engaged for many years in the tin plate business. He had been sick for eight months.

Besides the widow, he leaves three brothers, Frank M., William G. and

Charles J., all of Philadelphia, and a sister, Mrs. David Rutt, York, Pennsylvania.

The funeral, which was attended by a large number of his many

friends, was held Thursday, September 25th, at his late residence, 119 Glen Road, Ardmore, with interment in West Laurel Hill Cemetery.

ers), and the tailors' (Made for You).

"Anyone may enter this contest. Anyone may send more than one slogan.

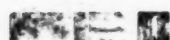
"In case two slogans, identically the same, are received, only the first of such received by the Chairman will receive consideration.

"This contest will close December 1, 1924. All slogans must be in the hands of the Chairman before December 1, 1924.

"The cash prize of \$25.00 will be awarded as soon thereafter as the committee can make the selection."

Who Has a Good Slogan That Will Fit Sheet Metal Contracting Business?

Slogan Committee of National Association

 Offers \$25.00 Cash Prize for Best Slogan.

IT WILL be remembered that there was considerable discussion at the annual convention of the National Association of Sheet Metal Contractors about the advisability of a slogan by which the sheet metal trade might advertise its business in a manner similar to that of the paint people, for example, with their "Save the Surface, and You Save It All."

Arthur Lichty, Waterloo, Iowa, was the one to bring the matter up, and as a result President Markle has appointed Mr. Lichty as chairman of the Slogan Committee and placed \$25 at its disposal as a prize for the submission of the most suitable slogan.

The following announcement is now made by the Slogan Committee:

"Twenty-five Dollars Cash Prize

"for the Best Slogan as Selected by the Slogan Committee for the National Association Sheet Metal Contractors of the United States.

"The slogan must be as short as possible.

"Slogan should be mailed to N. A. Lichty, Box 2474, Waterloo, Iowa. Chairman, Slogan Committee.

"Write or print slogan plainly.

"Sign name and address plainly.

"The slogan should express the lasting or wearing quali-

ties or other advantages of the use of sheet metal, so it may be used in advertisements like other tradesmen's slogans. For example, the paint people's (Save the Surface and You Save All); the florists' (Say it with Flow-

Harris Discusses View Point of Architect as to Material Made of Sheet Metal.

Municipal Architect of District of Columbia Makes Valuable Suggestions for Increasing Use of Sheet Metal in Buildings.

THE following very helpful paper was read before the annual convention of the National Association of Sheet Metal Contractors, recently held in Washington, by Albert L. Harris, municipal architect of the District of Columbia:

The Architect's Viewpoint on Sheet Metal Products.

To epitomize the viewpoint of the architectural profession with reference to the use of sheet metal in the building industry, I would say that the attitude of the architectural profession as a whole is one of profound ignorance as to general requirements, materials, workmanship, etc. I might also say that this attitude of mind is not confined alone to sheet metal products, but to practically all branches of manufactured commodities incorporated in a building. This looks on the face of it as a very severe arraignment of the architectural profession, but I feel there are many things which will modify this somewhat radical viewpoint.

When one considers the enormous amount of work being done in the country at the present time and the relatively few highly trained men prepared to execute this work it is not astonishing that there is a widespread lack of knowledge of many of the essential elements constituting the work of the architect. Nevertheless the profession has made great strides forward in the past fifty years; but it has not been able to keep up with the rapid growth of the other professions and trades which enter so largely into the construction of a building.

Fifty years ago a building project was a relatively simple problem compared with the complicated structures of today. It is not possible for one man to assimilate the detailed knowledge of all the trades involved in a modern structure. Fifty years ago an architect could execute almost any problem and supervise practically every detail. Today, even the most proficient architects must consult highly trained

experts in the several fields of engineering and the various trades, before a complete building can be produced. The success of the building depends very largely on the architect's ability to assimilate, correlate and incorporate all this information under one head.

Architect Not a Technical Man.

The architect is prone to call himself the master builder. It is true, to him belongs the conception of the project and it is he who directs all the various agencies which are employed in the erection of the building. But it is fair to say that this is only partially true, for he must depend upon other minds than his own for the necessary information to successfully execute any important project. Even highly trained men after four or five years of preparation under the standards of our best colleges and universities, enter the field of architecture lacking many of the qualifications essential for the proper practice of the profession. During the period of school they are taught chiefly, design, history, an appreciation of the fine arts and other cultural studies. There is not sufficient time left to instruct them in the manufacture and use of much of the material with which they will have to work in actual practice.

I said a moment ago, that the amount of work being done was enormous; so much so that there has grown up, supplementing the work of the architects, a group of men devoting their time to some specific field of engineering. In order to proceed rapidly with his work the architect must employ these men for highly specialized information.

The average practitioner's attitude of mind toward much of the highly technical work with which he comes in contact, is, I think, illustrated by a story I once heard giving the experience of an architect and one of the great steel corporations. This architect designed a building in which he proposed to use a large steel box girder. The building was placed under contract and in due time shop drawings of the girder were received by the archi-

tect for checking and approval. Accompanying the shop drawings was a letter from the manufacturer stating, that owing to certain shop practices it would be necessary to make a few changes in the riveting of the girder. The architect was asked to approve the changes. He immediately replied stating that he had designed the girder properly and he would not approve the changes suggested by them. Whereupon the steel corporation wrote a letter to the architect stating that they were perfectly willing to furnish the girder as he had designed it provided he would furnish a small man whom they could leave in the girder, as

"As employers it is up to you to inculcate in the minds of the mechanics the worthiness of their trade and endeavor to make them realize that they are absolutely necessary in the great scheme of life. * * * If they are taught to do good work and if they are taught to appreciate the satisfaction of work well done, these principles are likely to last throughout their life."

it was impossible to rivet the various members unless someone was left on the inside to hold the rivets in place.

Another story will illustrate the lack of specific knowledge on the part of many architects; being that of the architect who, when his attention was called to the fact that the particular kind of waterproofing which he had specified for a building, was, in the opinion of the contractor, wholly inadequate to meet the conditions of that particular job, replied that he had been using that particular specification for twelve years and he did not see what he could do about it.

Who Must Supply Specific Information?

Even the most competent men in the profession find it difficult to keep in touch with the many vital changes constantly taking place in the building industry. What is the solution?

I believe it lies with those who really know—members of your association and similar organizations. You should cooperate intelligently and practically with the architect. Most manufacturers publish literature that is helpful, but much of it is not in a form which can be easily filed and segregated for ready reference. The subject matter of the pamphlets and leaflets being issued by the manufacturers today is largely made up of pictures of buildings in which some specific material has been used. These pictures may appeal to the general trade, but they are of little value to the architect. The architect requires specific information on the size, arrangement and proposed use of any manufactured product with all details necessary to incorporate in a drawing or specification. Briefly outlined material, giving the various finishes and some idea of relative cost would be invaluable to an architect in determining the use of any given product. To my mind, the most valuable reference before the architectural and engineering professions today is Sweet's Architectural and Engineering Catalogue.

Taking up specifically the fabrication of sheet metal, I shall discuss this subject under three heads. First, materials; second, workmanship; third, protective coverings.

Under the first heading, materials, I shall discuss only the three most commonly used, tin, galvanized iron and copper. The first two, tin and galvanized iron, have a common iron or steel base metal. The object of terne coating or tinning as also the use of zinc spelter for galvanizing is for the purpose of protecting the steel base plate. The life of the material is determined by the protection afforded by the coating or covering. Up to twenty-five or thirty years ago the base metal was usually wrought iron. With the introduction of steel plate wrought iron ceased to be used; steel plate took its place, much to the detriment of the product. Because of the poor quality of roofing plates produced when this change was made, tin for roofs practically went out of existence and it has only been

in the last few years that real constructive work has been done along this line by endeavoring to find new alloys which would be more rust resistive than steel.

One of the most severe criticisms of your work, is, in my opinion, the manufacture of tin and galvanized iron with very thin coatings. I refer to that class of tin with 8, 12, 15 and 20-pound coating and of galvanized iron with a very uncertain amount of covering. When a material has been skinned to the point where it will not give reasonably satisfactory results, that material will soon be eliminated. The lower price will be attractive and induce a man to use it once, but after one bad experience it is hard to catch your sucker again.

I am going to quote what Mr. C. E. Verne says in an article written recently in *The American Zinc, Lead and Copper Journal* regarding galvanizing or zinc coatings.

"1. American galvanizers have been letting their trade slip away because of inadequate zinc coating. Sheets and wires and other galvanized or zinc-coated materials, which have been prepared in the United States, contain about three-fifths as much zinc as those made in England, which contain a standard amount of zinc sufficient to insure its efficiency and lasting qualities. That is why England is getting so much of the South American trade that logically belongs to the United States.

"2. The damage of rust as destroyer of iron has been estimated at the stupendous amount of 718,000,000 tons of iron, consumed by corrosion alone, in the last 34 years. This is an average of 21,000,000 tons each year. At half this estimate the loss would be more than is produced by the British industry in one year.

"3. Thomas M. Gregory, vice-president of the Hanlon-Gregory Galvanizing Company, says, relative to the rust-prevention problem:

"We sincerely believe that much good can be accomplished by the zinc and galvanizing industries by educating the public to the unques-

tioned economic need for galvanizing as a "life extension agency" for iron and steel products and materials. A coöperative advertising campaign, properly planned and consistently employed, will help enormously to conserve the hundreds of millions of dollars now literally sacrificed to rust and corrosion. Then, too, we believe that an educational publicity campaign based on facts, figures, comparisons and the truth, can undoubtedly replace the lack of confidence resultant from "squeezed" and "skinned" galvanizing.

(To Be Continued)

Notes and Queries

Copper Nails.

From Rolland J. Johnson, 70 West Side Square, Monmouth, Illinois.

Please inform me where I can buy copper nails of different shaped heads.

Ans.—American Steel and Wire Company, 208 South La Salle Street; C. G. Hussey and Company, 212 North Jefferson Street, and Merchant and Evans Company, 347 North Sheldon Street, all of Chicago, Illinois.

Screw Punch.

From A. B. Creacy, 312-A Madison Avenue, Madison, Illinois.

Please tell me who manufactures a screw punch that will cut from two to five-inch circles.

Ans.—Paul W. Koch and Company, 19 South Wells Street, Chicago, Illinois.

Light Nickel Plated Hinges, Etc.

From Harry T. Klugel, North Emporia, Virginia.

I should like to know who makes light nickel plated hinges, locks, thumb bolts, and other small hardware for metal furniture, medicine cabinets, kitchen cabinets, etc.

Ans.—Garden City Plating and Manufacturing Company, Ogden and Talman Avenues, Chicago, Illinois, and P. and F. Corbin Company, New Britain, Connecticut.

Electric Washers.

From George C. Powers, 1408 East Walnut Street, Des Moines, Iowa.

Who, in Chicago and east of Chicago, make electric washers?

Ans. — Fairbanks Morse and

Company, 900 South Wabash Avenue; Geyser Electric Company, 5008 Bloomingdale Avenue; Odin Company, 319 West Ohio Street, all of Chicago. Hurley Machine Company, Cicero, Illinois; Air-Way Electrical Appliance Corporation, 618 Broadway, Toledo, Ohio; Apex Electrical Manufacturing Company, 1067 East 152nd Street, Cleveland, Ohio; Blackstone Manufacturing Company, Jamestown, New York; Davis Sewing Machine Company, Dayton, Ohio, and Gillespie-Eden Corporation, New York City.

"Wilson" Wood Burning Heater.

From Harry T. Klugel, North Emporia, Virginia.

Can you tell me who makes the "Wilson" wood burning heater?

Ans.—Wilson Stove and Manufacturing Company, Metropolis, Illinois.

"Red Front" Furnace.

From Ace Sheet Metal Works, 5122 South Halsted Street, Chicago, Illinois.

Who makes the "Red Front" furnaces?

Ans.—St. Clair Foundry Corporation, Belleville, Illinois.

Oil Burners for Furnaces—"Doble" Oil Burner.

From Granite Lumber and Hardware Company, 1084 East 21st South, Salt Lake City, Utah.

We should like the names and addresses of manufacturers of oil burners for heating plants. 2. Also, can you advise us as to how we can get in touch with the people who make the "Doble" oil burner?

Ans.—1. Security Stove and Manufacturing Company, Kansas City, Missouri; Winslow Boiler and Engineering Company, 175 North Michigan Avenue, Chicago, Illinois; Williams Oil-O-Matic, Bloomington, Illinois; The Superior Oil Burner Company, 453 North Racine Avenue, Chicago, Illinois, and Majestic Engineering Company, Lafayette, Indiana. 2. Nokol Company, 215 North Michigan Avenue, Chicago, Illinois, who now sell their product under the "Nokol" name.

"Sun Beam" Lawn Mower.

From Julius Rieth, Lansing, Iowa.

Kindly inform me who makes the "Sun Beam" lawn mower.

Ans.—Chadborn and Coldwell Manufacturing Company, Newburgh, New York.

Silver Ware Successfully Arranged On Shelving In Boulder, Colorado, Hardware Window Display.

Method Avoids Overcrowded Appearance in Spite of Large Amount of Goods Displayed.

IT WILL make little actual difference so far as a window display is concerned whether John W. Davis or Calvin Coolidge is elected president of the United States on November 4.

The fact that a Democrat or a Republican reposes in the White House for the next four years will in no way obviate the necessity for avoiding as much as possible an overcrowded appearance in the window display. A dirty, overcrowded

ware Company, Boulder, Colorado, which has proved its ability to pull customers.

Mr. Stevens makes the following comment:

"Here is a photograph of a Christmas window display, which helped us make cash sales records this last month.

"The floor of the window display, silverware, carving sets, crumb trays; pocket knives on panels and flashlights, the other articles shown,

window and selection of goods displayed proved to be one of the most attractive and successful 'trims' we have ever shown."

Fire Destroys Manufacturing Plant of Regent Stove Company in Wyandotte, Detroit Suburb.

Fire believed to have started from an explosion of chemicals in the enameling department recently destroyed the plant of the Regent



Order-Pulling Window Display Arranged by Harold Stevens for the Wilson Hardware Company, Boulder, Colorado.

disorganized slipshod looking window is not productive of business, president or no president, not even the third party candidate.

To bring business into the store, the window display first of all must be attractive; it must contain seasonable goods or staples; it must offer an inducement either in quality materials or attractive prices; it should carry cross references to the newspaper advertisements in local papers.

In the accompanying illustration Harold Stevens has arranged a window display for the Wilson Hard-

ware Company, Boulder, Colorado, which has proved its ability to pull customers.

"To make a big display for Christmas shoppers, an unusual amount of shelving was used on brackets at the back of the window, which permitted of the showing of a large amount of goods, without giving an overcrowded effect.

"Red crepe paper panels over the lights at the top of the window, and white glazed paper with red rope trimmings on all shelves and floor gave a very brilliant effect.

"Every article was priced and the

Stove Works, Fourth and Cedar Avenues, Wyandotte, near Detroit, Michigan. The loss, which includes machinery and stock stored in the building, was estimated at \$500,000 by Thomas H. Conway, President of the Company.

The blaze burned several hours, endangering at times another factory unit of the company across the street. Fire companies from Wyandotte, River Rouge and Ecorse were unable to get the flames under control.

The building, which was of sup-

posedly fireproof construction, had been used as the stove manufacturing unit of the Company for a year and a half. At the time the build-

ing was taken over by the Company it was completely fitted out with new equipment. The loss is covered by insurance.

advantage of a stop-over at those cities, as well as many other important stop-over points on the return trip.

Reservations should be mailed or phoned to W. E. Blachley, Division Passenger Agent, 323 South Wells Street, Chicago; Telephone, Central 7200, Local 192.

Pennsylvania Railroad Has Arranged to Operate Hardware Special to Atlantic City.

Special Train Will Leave Chicago from Union Station, Sunday, October 12, at 1 P. M.

FOR the accommodation of delegates and others attending the annual conventions of the National Hardware Association, the American Hardware Manufacturers' Association and allied organizations, to be held in Atlantic City, New Jersey, October 13 to 17; the Pennsylvania Railroad System is arranging the operation of a special de luxe train, composed of modern all-steel equipment, including club, open-section, compartment, drawing room and observation cars, with dining car service for all meals.

The special train will leave Chicago, Union Station, Canal and Adams Streets, Sunday, October 12th, 1 P. M., central standard time, arriving in Atlantic City, New Jersey, 9:40 A. M., the following morning.

A reduced fare of one and one-half for the round trip on the identification certificate plan has been authorized for the meeting. Upon presentation of proper certificate of identification, which can be secured from Secretary T. J. Fernley, 505 Arch Street, Philadelphia, to your home ticket agent, you can purchase a round trip ticket at the reduced rate. Selling dates of the convention tickets in Central Passenger Association territory are October 9 to 15th, inclusive; tickets must be validated at destination and bear a final return limit of October 23rd.

One-way railroad fare, Chicago to Atlantic City, is \$31.52; round trip on the above plan, \$47.28. Pullman fares to Atlantic City are: Lower berth, \$9; upper berth, \$7.20; compartment, \$25.50, and drawing room, \$31.50. Consult local ticket agent relative to fares, selling dates and final return limit

applying from your home city; also details covering side trip to New York city, which can be made from Atlantic City, or Philadelphia.

Another notable feature is the fact that tickets to the east, if routed via the Pennsylvania Railroad, will be honored by way of Baltimore and Washington without additional charge. This will enable you to take

Penn Hardware, Reading, Secures Permit for New Building.

The Penn Hardware Company, Reading, Pennsylvania, has taken out a permit for the building of a large factory annex to its plant. The cost is estimated at \$61,800.

The structure will be brick, steel and concrete, one story high and 100 by 300 feet.

How Do You Greet and Treat the Salesmen Who Call on You From Time to Time?

They May Have Some Ideas That Will Make You a Lot of Money, So Treat 'em Right.

"SAY, that's a snappy little gas wagon you've been getting for yourself and your better half," said Josh Billings to Harry Munson, the local hardware dealer, whom he had picked up on the road half way between Lima and Connersville.

"Yes, it's quite a doggie little car," responded Harry with gusto and enthusiasm. "It sure can travel, too, let me tell you." Josh was the hardware salesman who had been making that territory for some time and he knew most of the hardware men for miles around. He knew their good and bad points, too, observant cuss that he was.

Billings had invited Harry into the former's car to give him a lift and found that Harry was bound for the same destination for which he himself was headed.

"The trouble is," said Josh to Harry, after they had been talking for some time, "you hardware men always get the idea that when we salesmen try to make suggestions to you we're trying to run your business. We salesmen are not try-

ing to run your business, we're simply trying to mind our own business and part of our business is to advise you and your brothers what to buy and how much you ought to lay in stock.

"You see, Harry, we're in a position to know what the fellow who is a little ahead of you is doing and what his demand is; therefore, it seems only reasonable to expect us to know about how soon the demand will reach you and how great that demand will be.

"We don't want to sell you fellows too much merchandise, because it's to our advantage not to. If we sell you only as much as we have good reason to think you, in turn, can sell within a reasonable length of time, then we win your confidence and are able to sell you again the next time we make our appearance. On the other hand, if we were to sell you as much as we could possibly persuade you to buy, you could not possibly move all of the stuff. Result, we, perhaps, would get our money only after a long

wait, causing hard feelings and enmity. It is certain we could never sell you another order, and we can't do business on that basis. We'd be out of the running in short order.

"When a salesman comes into your office, don't give him the cold shoulder even if he is the fourth or fifth that day—or even the tenth. He may have some good suggestions which will make you a lot of money. Courtesy to the knights of the brief case and samples is demanded of you. You cannot afford to treat them otherwise."

"Well, here we are," said Josh, as he sprang out of the driver's seat of his car. "I'm glad to have had your company. I'll be over and see you one day next week and you'll have to have luncheon with me, Harry, because I've got a lot of real stuff for you this time. And I don't mean if. Goodby."

Where Can I Get Repairs for "New Drummer" Lawn Mower?

TO AMERICAN ARTISAN:

Kindly inform me where I can secure repairs for the "New Drummer" lawn mower.

Yours truly,

ROBERT BOLLEN.

Reading for Diversion and Profit Necessary for Success.

Intelligent forecasting of business movements, practical interpretation of present-day events, the understanding of social and business movements, are not possible without carefully selected reading, according to J. H. Tregoe, executive manager, National Association of Credit Men. No human mind was ever created that could function at its best without fuel. Reading and experience feed the mind and they complement one another. By reading we interpret our experiences.

The business man thinks oftentimes that he has done his full duty in running over the morning and afternoon newspapers, studying his trade publication, getting the stock or market quotations. But he sees how insufficient this is when he realizes that an understanding of the

many currents that came together in the disastrous maelstrom of 1914 is not possible for anyone who has not read Europe's political history since the Berlin Congress of 1878.

Reading does not simply furnish facts and information. Its best use is in encouraging the orderly and critical functioning of the mind. Nothing should be read that is not reflected upon, for in reflection comes the real educative progress.

A man I know wanted to study law because he felt that a knowledge of legal principles would prove helpful in his work. In a four years' course at a university he secured the training, though all his reading had to be done to and from his work on the street cars. Let us assign a small part of each day or a little part of each week to general reading which embraces especially the subject that we believe will help us most in grasping the trend of present-day events and make us more proficient in our profession. The result will be ample recompense for every sacrifice made.

My feeling is that many mistakes are made in business and finance because there has not been a sufficient background of facts upon which to forecast the future and to interpret the tendency of each day's events. Carefully selected reading will help overcome this weakness.

You Can't Dodge Death or Taxes.

There are two things you cannot dodge—death and taxes. However, taxes may be the death of your business if you do not make adequate provision for them.

You cannot treat taxes and insurance with indifference despite the fact that they are considerably lower than many of the other expenses incurred in the operation of your store.

Business men are gradually becoming aware of the real value of comparable statistics and familiar with the ways in which they may be employed. For that reason a special method of handling taxes and insurance is being advocated con-

tinually by the leading authorities engaged in studying the costs of doing business. Briefly, this method is as follows:

If you are a store owner you pay more taxes and insurance than if you paid rent. To attain comparable figures your tax account should include only city, county and state taxes on merchandise, equipment and capital stock. Taxes on real estate are considered as part of rent; while federal and state income taxes are properly classified under "financial expense." Your insurance account should embrace all kinds of insurance except insurance on buildings, which should be considered as part of rent.

Inasmuch as all of our authorities do not classify "taxes" and "insurance" separately, we have consolidated these items on the opposite page. The summary of this series will give separate classifications in all possible cases.

Fake "Direct-to-Consumer" Stores Are Enjoined by Federal Trade Commission.

Four Philadelphia concerns selling furniture at retail are cited for unfair methods of competition in separate complaints issued by the commission. The complaints allege in each instance that the firms use various false and misleading statements in advertising matter to the effect that their customers in buying from them deal direct with the manufacturers, thereby saving the middlemen's profit.

Coming Conventions

National Hardware Association Convention, Atlantic City, New Jersey, October 13, 14, 15, 16, 17, 1924. Hotel Headquarters, Marlborough-Blenheim. T. J. Fernley, Secretary-Treasurer, 505 Arch Street, Philadelphia.

American Hardware Manufacturers Association Convention, Atlantic City, New Jersey, October 14, 15, 16, 17, 1924. Hotel Headquarters, Marlborough-Blenheim. F. D. Mitchell, Secretary-Treasurer, 1819 Broadway, New York City.

Mid-Year Meeting of the National Warm Air Heating and Ventilating Association and Dedication of the Warm Air Heating Research Residence, Urbana, Illinois, December 2, 1924. Allen W. Williams, Secretary, Columbus, Ohio.

Perfecting Stove Sales Organization Must Take Cognizance of Personal Element.

Salesman's State of Health Has Direct Bearing Upon His Attitude Toward Customers and Sales.

WE'VE heard a lot about improved stove selling methods in the recent past. A good deal has been said about getting the selling machine to work at its highest efficiency, especially now when the cold weather is setting in and when consequently the demand for stoves will be automatically increased, while sales resistance is at the same time lessened.

Is it possible that in the mad rush for an increase of stove business the personal efficiency element has been overlooked or neglected? Perhaps not in every organization, but nevertheless a thorough investigation into the self-quiz idea will be beneficial to every stove salesman at the outset.

Perhaps you're not one of those physical culture "cranks" and feel that you can put in your time to a far better advantage than by doing physical calesthenics. Physical exercise, however, is beneficial if it is taken moderately and not overdone.

Many men are of the opinion that physical exercise does nothing but develop muscle. And as their work is chiefly mental the development of a perfect stature is not essential or necessary to their welfare and success.

Of course, the belief that physical exercise is desirable only for those who wish an exaggerated muscular development is fallacious. The entire human body—muscle, tissue and brain—is fed and nourished through the circulation of the blood. Therefore, the primary requisite is a good circulation. While strong muscles demand and receive good nourishing food, the mind, being fed by the same blood, receives better nourishment likewise, and, therefore, the mind is better able to produce increased activity.

Then, too, there is another phase to the question. The man who ex-

ercises moderately increases the activity of his respiratory organs, which, in turn, brings more fresh air into his lungs. This, in turn, produces better digestive action and the whole system is brought to a higher state of efficiency with the result that Mr. Stove Salesman feels fine, is agreeable, cheerful and carries a smile for his customers. He also carries himself more erect, which, in turn, begets confidence and respect. More sales are made and everybody profits.

Now, this may be a slight digression from the ordinary run of sales story and then, too, you may already be a firm enthusiast in the physical culture idea. It's an excellent idea, however, to stop dead in your tracks once in a while, sit down and start an examination of yourself physically. You will be the inquisitor and the one being examined at the same time, so that you can be as ruthless as you like, but you'll find that if you're honest with yourself you'll profit most when you've got yourself into the habit of taking some light form of exercise every morning. It won't take over ten minutes and you surely can afford that amount of time for anything which has to do with your own personal health.

It Pays Well to Take Care That Stoves Are Properly Installed.

It is a poor merchant who loses interest when the sale is made and the delivery date secured. Satisfaction and future stove business both depend very largely on the proper installation of the stove. The merchant should make it a point to see that the stove is set up under conditions which will absolutely guarantee its satisfactory operation. The customer should be carefully informed in detail as to the workings of the grates, dampers, draft slides,

etc. If the customer wishes the stove placed where the man in charge of the installation thinks it might not work properly, he should carefully explain the situation and get consent for a change of location. Sometimes the chimney is poor, or other conditions are not right for a proper draft. He should then suggest the various things a housewife may have to contend with and suggest remedies. If it happens afterward that the stove does not bake or draw properly, the customer knows the reason and does not condemn the stove or lose confidence in the dealer. It is safe to say that fully 90 per cent of all stove complaints can be traced to improper selling or installing. A little care will cut such complaints very materially.

Felix Kahn, President Estate Company for 25 Years, Has Passed to His Reward.

Many of the old timers in the stove manufacturing business will learn with regret that Felix Kahn, President of the Estate Stove Company, Hamilton, Ohio, has passed on at his home in Cincinnati.

Mr. Kahn was sick about two weeks, death being due chiefly to complications brought on by his age. He was 76 years old, having been born in France.

There Is Room for Defeat, But None for Discouragement.

Winning in any enterprise isn't just a matter of never being knocked down. It is, however, a matter of scrambling to your feet again the minute you are knocked down and getting back into the scrimmage. This is true of implement selling, stove selling, as of anything else that calls for effort; and should be remembered especially by the "outside salesman" for the hardware store. There is room for defeat, but none for discouragement—that is; if you mean to win out in the long run.

It pays to advertise regularly.

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It pays to advertise regularly.

Make Your Advertisements More Than Enough Picture and Copy to Fill Space.

Give Them the Best Possible Chance to Sell the Greatest Number of People.

FOR a very clever advertising layout, peruse the accompanying reprinted ad of Vonnegut Hardware Company. For a cooking utensil you in mind of that wonderful din-

you instead of going to some other store when planning to build. Nowadays people either shop where they can get the best bargains or where they get the best quality and serv-

panying advertisement, taken from the *Ann Arbor, Michigan, News*, was used, and in that case it undoubtedly served its owner well. But under ordinary circumstances it is hard to see how the ad could do more than keep the firm name before the public.

* * *

"Saturday Specials." Many stores run these and find them exceedingly helpful in bringing patrons into the store.

The accompanying illustration shows an advertisement of a Saturday special taken from the *Holland, Michigan, Sentinel*.

Here is not only one item offered at reduced prices, but five. This is adopting merchandising

Good Cooking Deserves Good Cooking Utensils—Get Them at Vonnegut's

Wagner Hollow Ware

Wagner Hollow Ware is the most popular cooking and baking utensil in the world. It is made of the finest quality metal and is guaranteed to last for ever.

Carving Sets

These sets are made of the finest quality metal and are guaranteed to last for ever. They are the most popular carving sets in the world.

Universal Bread Mixers

These mixers take all the hard work out of bread making. They are the most popular bread mixers in the world.

Roasters

These roasters are made of the finest quality metal and are guaranteed to last for ever. They are the most popular roasters in the world.

Additional Kitchen Aids

These kitchen aids are made of the finest quality metal and are guaranteed to last for ever. They are the most popular kitchen aids in the world.



Universal Food Cutter

This cutter is made of the finest quality metal and is guaranteed to last for ever. It is the most popular food cutter in the world.

Silver Plated Ware

This ware is made of the finest quality metal and is guaranteed to last for ever. It is the most popular silver plated ware in the world.

Pyrex Ware

This ware is made of the finest quality metal and is guaranteed to last for ever. It is the most popular Pyrex ware in the world.

Percolators

These percolators are made of the finest quality metal and are guaranteed to last for ever. They are the most popular percolators in the world.

Dish Drainers

These dish drainers are made of the finest quality metal and are guaranteed to last for ever. They are the most popular dish drainers in the world.

Casseroles

These casseroles are made of the finest quality metal and are guaranteed to last for ever. They are the most popular casseroles in the world.

Pyrex Ware

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VONNEGUT HARDWARE CO.
120-124 East Washington Street

sil display it can't be improved upon. Note the headline and the clever suggestive insert just below it. Puts ner you had at the occasion of your second wedding anniversary. Starts you off by associating the good food with good cooking utensils.

There is everything there with which to prepare a meal, the stove with the Red Wheel included. Prices are quoted so that there would be no hesitation in this respect.

* * *

In these days of keen competition it is hardly sufficient to say in your advertisement that you are headquarters for the goods you carry. You may be headquarters, but what about it. Supposing a competitor also says he's headquarters, what about that?

You've got to give your prospective customer a reason for seeing

ice obtainable for the money they have to spend.

When the advertisement fails to appeal to the customer through one

BUILDERS HARDWARE

We are headquarters for
**QUALITY BUILDERS
HARDWARE**

Sheet Metal work a specialty

See Us If You Plan to Build

JNO. C. FISCHER CO.
Washington at Main Main at Washington

of these main avenues it has failed in its ultimate purpose—to bring the customer to the store, in order that the salesman will have a chance to exercise his ability and ingenuity.

Perhaps there was some special circumstance for which the accom-

SATURDAY SPECIALS!

AUTO SPOTLIGHTS

For any car, closed or open. Convex Lenses **\$1.95**

6-inch slip joint plyers, made of steel, dull nickled finish. Useful for auto and all around work.

19c

Imported Rubber Insulated Handle side cutting electrical plyers, 7-inch.

85c

Dust Mops with long handles. For varnished, waxed or linoleum floors.

each 50c

Berry Bros. celebrated auto colored varnish in various colors for autos, baby buggies, porch furniture, chairs, etc. A liberal discount for Saturday. In quarts, pints and half pints.

John Nies' Sons Hardware COMPANY

methods used by the big department stores, which is a good practice wherever it can be done profitably.

Many people never buy merchandise unless they see the price reduced. These folks are shrewd buyers and it will pay the storekeeper to cultivate their trade.

* * *

If you can't keep your temper, you can't keep your customers. People will not do business with a salesman who becomes angry, or even irritable.

Chicago Warehouse Prices on Hardware and Metals.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

FIG IRON.

Chicago Foundry	.....	\$20 50
Southern Fdy. No.	.....
2	.....	23 51 to 25 01
Lake Superior Charcoal	.....	23 04
Malleable	.....	20 50

FIRST QUALITY BRIGHT

TIN PLATES.		
IC 20x28 112 sheets	25 80	
IX 20x28	27 25	
IXX 20x28 56 sheets	15 35	
IXXX 20x28	16 45	
IXXXX 20x28	17 55	

TERNE PLATES

	Per Box
IC 20x28, 40-lb. 112 sheets	\$25 10
IX 20x28, 40-lb.	23 00
IX 20x28, 30-lb.	21 30
IX 20x28, 30-lb.	24 20
IC 20x28, 25-lb.	20 30
IX 20x28, 25-lb.	23 20
IC 20x28, 20-lb.	17 80
IV 20x28, 15-lb.	20 05
IC 20x28, 12-lb.	16 55
IC 20x28, 8-lb.	13 55

COKE PLATES.

Cokes, 80 lbs., base, 20x28.	\$12 70
Cokes, 90 lbs., base, 20x28.	12 95
Cokes, 100 lbs., base, 20x28.	13 25
Cokes, 107 lbs., base, IC 20x28.	13 60
Cokes, 135 lbs., base, IX 20x28.	15 40
Cokes, 155 lbs., base, 56 sheets.	8 80
Cokes, 175 lbs., base, 56 sheets.	9 70
Cokes, 195 lbs., base, 56 sheets.	10 65

BLUE ANNEALED SHEETS.

Base 10 ga.per 100 lbs.	3 80
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ONE PASS COLD ROLLED BLACK.

No. 18-20.....per 100 lbs.	\$4 30
No. 22-24.....per 100 lbs.	4 35
No. 26.....per 100 lbs.	4 40
No. 27.....per 100 lbs.	4 45
No. 28.....per 100 lbs.	4 50
No. 29.....per 100 lbs.	4 60

GALVANIZED.

No. 16.....per 100 lbs.	\$4 75
No. 18-20.....per 100 lbs.	4 90
No. 22-24.....per 100 lbs.	5 05
No. 26.....per 100 lbs.	5 20
No. 27.....per 100 lbs.	5 35
No. 28.....per 100 lbs.	5 50
No. 30.....per 100 lbs.	6 00

BAR SOLDER.

Warranted.	
50-50.....per 100 lbs.	30 00
Commercial.	
45-55.....per 100 lbs.	29 00
Plumbers.....per 100 lbs.	28 25

ZINC.

In Slabs	7 25
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SHEET ZINC.

Cask lots, stock, 100 lbs.	11 50
Less than cask lots, 100 lbs.	11 85

BRASS.

Sheets, Chicago base.....	17% c
Mill Base.....	16% c
Tubing, brazed base.....	24% c
Wire, base.....	17% c
Rods, base.....	14% c

COPPER.

Sheets, Chicago base.....	19% c
Mill base.....	19% c
Tubing, seamless base.....	22% c
Wire, No. 9 & 10 B. & S. Ga.	.....
Wire, No. 11, B. & S. Ga.	16% c

LEAD.

American Pig	.....	9 50
Bar	.....	10 50
Sheet.		
Full Colls.....per 100 lbs.	12 15	
Cut Colls.....per 100 lbs.	12 40	

TIN.

Pig Tin.....per 100 lbs.	52 87 1/2
Bar Tin.....per 100 lbs.	53 87 1/2

HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

ADZES.

Coopers'.	
Barton's.....Net	
White's.....Net	

AMMUNITION.

Shells, Loaded, Peters.	
Loaded with Black Powder 13%	
Loaded with Smokeless Powder.....13%	
Winchester.	
Smokeless Repeater	.....20 & 4%
Smokeless Leader	.....20 & 4%
Grade.....20 & 4%	
Black Powder.....20 & 4%	
U. M. C.	
Nitro Club.....20 & 4%	
Arrow.....20 & 4%	
New Club.....20 & 4%	
Gun Wads—per 1000.	
Winchester 7-8 gauge 10 & 7 1/2 %	
" 9-10 gauge 10 & 7 1/2 %	
" 11-28 gauge 10 & 7 1/2 %	

ASBESTOS.

Paper up to 1/16.....6c per lb.	
Rollboard.....6 1/2 c per lb.	
Millboard 3/32 to 1/2.....6c per lb.	
Corrugated Paper (250 sq. ft. to roll).....\$6.00 per roll	

AUGERS.

Boring Machine.....40 & 10%	
Carpenter's Nut.....50%	
Hollow.	
Stearns, No. 4, doz.....\$11 50	
Post Hole.	
Iwan's Post Hole and Well 35%	
Vaughan's, 4 to 9 in.....\$15 60	

AXES.

First Quality, Single	
Bitted (unhandled), 3 to 4 lb., per doz.....\$14 00	
Good Quality, Single	
Bitted, same weight, per doz.....13 00	

BAR, CROW.

Steel, 4 ft., 10 lb.....\$ 80	
Steel, 5 ft., 18 lb.....1 40	
Pinch Bars.	
5 1/2 ft., 24 lb.....1 60	

BAR, WRECKING.

V. & B. No. 12.....\$0 30	
V. & B. No. 24.....0 42	
V. & B. No. 324.....0 57	
V. & B. No. 380.....0 45	
V. & B. No. 339.....0 63	

BITS.

All Vaughan and Bushnell.	
Screw Driver, No. 30, each \$ 30	
Screw Driver, No. 1, each 18	
Reamer, No. 80, each.....45	
Reamer, No. 100, each.....45	
Countersink, No. 13, each.....23	
Countersink, Nos. 14-15, each 30	

BLADES, SAW.

Wood.	
Atkins 30-in.	
Nos. 6 40 26	
	\$8 30 \$9 45 \$5 40

BLOCKS.

Wooden.....45%	
Patent.....45%	

BLOW TORCHES (See Firepots).

BOARDS.

Stove.	
Crystal, 33".....Per Doz. \$22 90	

Wash.	
No. 760, Banner Globe (single).....per doz. \$5 25	
No. 652, Banner Globe (single).....per doz. 6 75	
No. 801, Brass King.....per doz. 8 25	
No. 860, Single—Plain Pump.....6 25	

BOLTS.

Carriage.	
Small, roll thread.....50-10-5%	
Small and Large cut thread.....50-5%	
Machine.	
Small, roll thread.....60-5%	
Small, cut thread.....50-10-5%	
Stove.....70-5%	

BRACES, RATCHET.

V. & B. No. 444, 8 in.....\$4 54	
V. & B. No. 222, 8 in.....3 89	
V. & B. No. 111, 8 in.....3 55	
V. & B. No. 11, 8 in.....3 02	

BRUSHES.

Hot Air Pipe Cleaning.	
Bristle, with handle, each \$0 85	
Flue Cleaning.	
Steel Only, each.....\$1 25	

BURRS.

Copper Burrs only.....40-10%	
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BUTTS.

Steel, antique copper or dull brass finish—case lots—3 1/2 x 3 1/2—per dozen pairs \$3 65	
4x4....." " " 4 92	
Heavy Bevel steel inside sets, case lots—	
50-lb. cans, " 7 80	
Steel bit keyed front door sets, each.....1 90	
Wrought brass bit keyed front door sets, each.....3 25	
Cylinder front door sets, each.....7 50	

CEMENT, FURNACE.

American Seal, 5 lb. cans, net \$ 45	
" 50-lb. cans, " 90	
" 25 lb. cans, " 2 00	
Asbestos, 5 lb. cans, net.....45	
Pecora.....per 100 lbs. 7 51	

CHAINS.

% in. proof coil chain, per 100 lbs.....\$8 50	
American coil chain.....40 & 10%	

CHIMNEY TOPS.

Iwan's Complete Rev. & Vent.....30%	
Iwan's Iron Mountain only.....35%	
Standard.....30 to 40%	

CHISELS.

Cold.	
V. & B. No. 25, 1/4 in., ea. \$0 26	
V. & B. No. 25, 1/2 in., ea. 38	
Diamond Point.	
V. & B. No. 55, 1/4 in.....0 33	
V. & B. No. 55, 1/2 in.....0 45	

Firmer Bevelled.

Round Nose.	
V. & B. No. 65, 1/4 in.....0 33	
V. & B. No. 65, 1/2 in.....0 45	

Socket Firmer.

Cape.	
V. & B. No. 50, 1/4 in.....0 31	
V. & B. No. 50, 1/2 in.....0 62	

CHUCKS, DRILL.

Goodell's, for Goodell's Screw Drivers.....List less 35-40%	
Yankee, for Yankee Screw Drivers.....\$6 00	

CLAMPS.

Adjustable.	
No. 100, Door (Stearns) doz.....\$22 00	

Carpenter's.	
Steel Bar.....List price plus 20%	

Hose.	
Sherman's brass, 1/4-inch per doz.....\$0 48	
Double, brass, 1/4-inch, per doz.....1 20	

CLINKER TONGS.

Front Rank, each.....\$1 75	
Per doz.....18 00	

CLIPS.

Damper.	
Acme, with tail pieces, per doz.....\$1 31	
Non Rivet tail pieces, per doz.....31	

COPPERS—Soldering.

Pointed Roofing.	
3 lb. and heavier.....per lb. 40c	
2 1/2 lb." 45c	
2 lb." 48c	
1 1/2 lb." 55c	
1 lb." 60c	

CORD.

No. 7 Std. per doz. banks.....\$10 30	
No. 8 " " " 11 75	

CORNICE BRAKES.

Chicago Steel Bending.	
Nos. 1 to 6B.....10%	

COUPLING HOSE.

Brass.....per doz. \$1 20	
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CUT-OFFS.

Kuehn's Korrekt Kutoffs:	
Galv., plain, round or cor. rd. Standard gauge.....40%	
26 gauge.....10%	

DAMPERS.

"Yankee" Hot Air.	
7 inch, each 20c, doz.....\$1 75	
8 " " 25c, " 2 40	
9 " " 30c, " 2 75	
10 " " 32c, " 3 00	

Smoke Pipe.	
7 inch, each.....\$ 35	
8 " " 40	
9 " " 50	
10 " " 60	
12 " " 90	

Reversible Check.	
8 inch, each.....\$1 50	
9 " " 1 70	

DIGGERS.

Post Hole.	
Iwan's Split Handle (Eureka)	
4-ft. Handle.....per doz. \$14 00	
7-ft. Handle.....per doz. 36 00	
Iwan's Hercules pattern, per doz.....14 90	

DRILLS.

V. & B. Star, 12-inch Length.	
1/4, 5/16 and 3/8, each.....\$ 27	
1/2, each.....38	
1, each.....57	
1 1/2, each.....85	
V. & B. Star, 18-inch Length.	
1/4, each.....\$ 35	
1/2, each.....47	
1, each.....72	
1 1/2, each.....1 10	

EAVES TROUGH.

Milcor.	
Galv. Crimpedge, crated.....75-5%	

ELBOWS—Conductor Pipe.

Milcor.....	
Galv., plain or corrugated, round flat.	
Crimp, Std. gauge.....65%	
26 Gauge.....40%	
24 Gauge.....10%	

Square Corrugated.	
Milcor.....	
Standard gauge.....50%	
26 gauge.....30%	

Portico Elbows.	
Standard Gauge Conductor Pipe, plain or corrugated.	
Not nested.....70 & 5%	
Nested solid.....70 & 5%	

ELBOWS—Stove Pipe.

1-piece Corrugated. Uniform.	
5-inch.....Dox. \$1 40	
6-inch.....1 60	
7-inch.....2 00	

Special Corrugated.

6-inch.....Dox. \$1 35	
7-inch.....1 65	

Business Improvement Gains Headway With Financial Conditions Favorable to Continuance.

Non-Ferrous Metal Prices Go Lower Through the Week—Constructive News Comes from Market.

THE steel industry has been thrown into some confusion by abandonment of the "Pittsburgh plus" price basis and adoption of a new price plan whereby steel products are quoted either at the mills or delivered to the buyer's plant.

"The most significant changes in prices so far as they have developed are that buyers at Chicago will pay only \$3 a net ton more than the Pittsburgh price on sheets and wire products, whereas heretofore they have paid \$6.80 a net ton more," the *Iron Age* says. "For wrought iron pipe there will be two prices, one for the Pittsburgh district and one for Lorain, Ohio. The new wire prices are the same for Pittsburgh and Cleveland at \$2.50 for plain wire and \$2.75 a keg for nails, which is 5 cents below the recent quotation at Pittsburgh.

"For plates, structural shapes and bars, prices have long been independent of Pittsburgh basing, with Chicago mills quoting \$2 or \$3 a ton above Pittsburgh prices, although the freight from Pittsburgh is \$6.80.

"The effect of the naming of mill or delivered prices will tend to localize competition, it is believed," the *Iron Trade* says. "Such a situation is favorable to the Steel Corporation and may turn out to be of material benefit to the largest producer in a competitive way."

Copper.

The feature of the week in copper was the break in price to 13.00 cents, Connecticut, occasioned by the entrance of certain large agencies into the market.

Some of the large consumers bought good sized tonnages when the market reached 13.00 cents, mostly for wire purposes.

Zinc.

Prime western zinc have declined about 10 points.

Sharp competition continues for orders from sheet galvanizers, with a tendency shown for orders to become quiet again, from those interests that have been moderate buyers since the market was 6.20 cents down to today's price of 6.12½ cents, f. o. b. East St. Louis basis.

Tin.

Straits tin prices dropped another 1½ cents in the past week, following a previous 3-cent drop.

A good volume of buying was done about a week ago by some of the large independent tin plate makers, but as prices continued to decline buying fell off.

Lead.

Comparatively small offerings of prompt and October shipment lead at 7.85 cents, East St. Louis, in the recent dull market have sufficed to establish the market at that level.

On eastern business, the quotation of the leading interest, 8.00 cents, New York, has been maintained.

Sheets.

The sheet market has been suspended in mid-air since the announcement of the United States Steel Corporation that it would abolish Pittsburgh plus.

Many consumers have inquired concerning the new prices and many have evidenced a desire to place some business on the books of local makers at this time.

Business thus offered to one maker in this district has been taken on the old basis of 2.70 cents, Pittsburgh, for blue annealed, 3.50 cents, Pittsburgh, for black and 4.70 cents, Pittsburgh, for galvanized.

Tin Plate.

As far as new business is concerned, the tin plate market continues to drag. Shipments are being made at about the same rate as has prevailed for several weeks past.

No inquiries have developed to create a real market test, and the official price continues unchanged at \$5.50 per base box of 100 pounds, Pittsburgh, with only slight departures from that level being noted. Tin plate stock lists are growing in a number of cases.

Solder.

Chicago warehouse prices on solder are as follows: Warranted, 50-50, \$30.00; Commercial, 45-55, 29.00, and Plumbers', \$28.25, all

Old Metals.

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$19.00 to \$19.50; old iron axles, \$25.00 to \$26.00; steel springs, \$20.50 to \$21.00; No. 1 wrought iron, \$15.00 to \$15.50; No. 1 cast, \$16.50 to \$17.00, all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 8 cents; light brass, 5 cents; lead, 6 cents; zinc, 3¼ cents, and cast aluminum, 15 cents.

Week Sees Fair Run of Orders Maintained in Pig Iron.

The pig iron market report by Rogers, Brown & Company is as follows:

"Interest in pig iron is being maintained and the week has seen a fair run of orders. While the activity has been more noticeable along the Atlantic seaboard, some good tonnages were also placed in the Central West for shipment over the remainder of this year. For the most part, the iron is going to foundries influenced by car and railway equipment manufacturers.

"First quarter tonnages are becoming more and more prominent, although furnace companies are discouraging sales so far ahead, as they look for better prices later."

Uniform, Collar Adjustable.	
5-inch	Doz. \$2 00
6-inch	Doz. 3 10
7-inch	Doz. 3 60
WOOD FACES—50% off list.	

FENCE.	
Field Fence	61 1/2%
Lawn	58%

FILES AND RASPS.	
Heller's (American)	50-10%
American	50-10%
Arcade	50%
Black Diamond	40-10-5%
Eagle	50%
Great Western	50%
Kearney & Foot	50%
McClellan	50%
Nicholson	50%
Simonds	60%

FIRE POTS.	
Ashton Mfg. Co.	
Complete line	
Firepots and Torches	52%

Otto Bernz Co.	
No. 1 Furn. Gasolene with large shield, 1 gal.	\$ 6 75
No. 3 Furn. Kerosene, 1 gal.	15 12
No. 10 Brander, Kerosene or Gasolene, 10 gals.	47 53
No. 5 Torch, Gasolene or Kerosene, 1 pt.	7 92
No. 83 Torch, Gasolene, 1 quart	5 40
No. 86 Torch, Gasolene, 1 pint	4 05

Clayton & Lambert's.	
East of west boundary line of Province of Manitoba, Canada, No. Dakota, So. Dakota, Nebraska, Kansas, Oklahoma, Amarillo, San Angelo and Laredo, Texas	52%
West of above boundary line	48%

Geo. W. Diener Mfg. Co.	
No. 02 Gasolene Torch, 1 qt.	\$ 5 55
No. 0250, Kerosene or Gasolene Torch, 1 qt.	7 50
No. 10 Tinner's Furn.	12 60
No. 15 Tinner's Furn.	12 00
Round tank, 1 gal.	12 00
No. 21 Gas Soldering Furnace	3 60
No. 110 Automatic Gas Soldering Furnace	10 50

Double Blast Mfg. Co.	
Gasolene, Nos. 25 and 35	60%
Quick Meal Stove Co.	
Vesuvius, F.O.B. St. Louis	30%
(Extra Disc't. for large quantities)	

Chas. A. Hones, Inc.	
Buzzer No. 1	\$ 9 00
" " 2	12 00
" " 22	13 50
" " 42	15 00
" " 43	19 00

FREEZERS—ICE CREAM.	
Peerless and Alaska	
1 quart	\$2 95
2 quart	3 45
3 quart	4 10

White Mountain	
1 quart	\$4 85
2 quart	5 65

GALVANIZED WARE.	
Pails (Competition), 3 qt.	\$1 95
10-qt.	2 30
12-qt.	2 40
14-qt.	2 75
Wash tubs, No. 1	\$6 35
No. 2	7 15
No. 3	8 35

GARAGE DOOR HARDWARE.	
Stanley	All net

GAUGES.	
Marking, Mortise, etc.	Nets
Wire.	
Disston's	25%

GIMLETS.	
Discount	65% and 10%

GLASS.	
Single Strength, A25-in.	
bracket	83%
Single Strength A, 34 to 40-in. bracket	86%
Single Strength A, all other brackets	85%
Double Strength A, all sizes	86%

GREASE, AXLE.	
Fraser's	
1-lb. tins, 25 to case, per case	\$ 4 70
3-lb. tins, 24 to case, per case	7 80
5-lb. tins, 12 to case, per case	7 20
10-lb. tins, per dozen	10 40
15-lb. tins, per dozen	13 80
25-lb. tins, per dozen	19 80

HAMMERS, HANDLED.	
All V. and B.	Each, net
Blacksmiths' Hand, No. 0, 26-oz.	\$0 87
Engineers' No. 1, 26 oz.	27
Farrier's, No. 7, 7-oz.	90
Machinists', No. 1, 7-oz.	64

Nail.	
Vanadium, No. 41, 20-oz. each	1 42
Vanadium, No. 41 1/2, 16-oz. each	1 42
V. & B. No. 11 1/2, 16-oz. each	92
Garden City, No. 11 1/2, 16-oz., each	69
Tinner's Riveting, No. 1, 8-oz., each	71
Shoe, Steel, No. 1, 13-oz. each	71
Tack.	
Magnetic, No. 5, 4-oz., each	78

HAMMERS, HEAVY.	
Farrier's, No. 10, 10-oz.	\$1 01

HANDLES.	
Axe.	
Hickory, No. 1, per doz.	4 00
Hickory, No. 2, per doz.	3 00
1st quality, second growth	6 00
Special white, 2nd growth	5 00

Chisel.	
Hickory, Tanged, Firmer assorted	per doz. 55c
Hickory, Socket, Firmer, Assorted	per doz. 70c

File	
Hammer and Hatchet.	
No. 1 per doz.	\$0 90
Second Growth hickory, per doz.	1 50

Soldering.	
Per doz.	\$2 40

HANGERS.	
Conductor Pipe.	
Milcor Perfection Wire	25%

Eaves Trough.	
Steel hangers	30%
Triple Twist wire	10%
Milcor Eclipse Wire	20%
Milcor Triplex Wire	15%
Milcor Milwaukee Extension	15%
Milcor Steel (galv. after forming) List plus	12 1/2%
Milcor Selflock E. T. Wire, List plus	40%

HASPS.	
Hinge, Wrought, with staples.	Net

HATCHETS.	
V. & B. Supersteel.	Each
Broad, No. 1, 24-oz.	\$1 53
Half, No. 1, 15-oz.	1 33
Half, No. 3, 27-oz.	1 44
Claw, No. 1, 19-oz.	1 38
Flooring, No. 1, 20-oz.	1 53
Shingling, No. 1, 17-oz.	1 28
Lathing, No. 1, 14-oz.	1 28
Lathing, No. 2, 17-oz.	1 33

Vanadium Steel.	
Half, No. 2, 22-oz.	\$1 04
Underhill Pattern Lathing, 9 row, 19-oz.	2 14

HINGES.	
Heavy Strap, in Bundles.	
4 inch, dozen prs.	\$1 26
5 " " "	1 74
6 " " "	2 12
8 " " "	3 54

Extra Heavy T in Bundles.	
4 inch, dozen prs.	\$1 90
5 " " "	2 01
6 " " "	2 52
8 " " "	4 30

HOES.	
Garden	net

HOOKS.	
Box.	
V. & B. No. 1, each	\$0 26

Conductor.	
Milcor	
"Direct Drive" Wrought Iron for wood or brick	15%

Hay.	
V. and B. No. 1, each	28

Bar Meat.	
V. and B. No. 26, 1/2", each	99
V. and B. No. 28, 1/2", each	16

Screw Meat.	
V. & B. No. 2, per gro.	7 15

Butchers' "B."	
V. & B. No. 6, each	99
V. & B. No. 8, each	13

HOSE.	
Per Ft.	
1/2-in. 3 ply molded	12c
1/2-in. cord	8 1/2c to 10c
1/2-in. wrapped	14c

HUMIDIFIERS.	
"Front-Rank," Automatic.	
In single lots	50%
In lots of 10 or more	50-5%
In lots of 25 or more	50-10%
Vapor pans, etc., each	50%

IRON.	
Sad.	
Genuine Mrs. Potts, nickel plated, per set	\$1 55
Asbestos No. 70, per set	2 10
Asbestos No. 100, per set	2 30
E. C. Stearns', No. OA Corner, doz. sets	\$2 50
No. OB " " "	2 75

KNIVES.	
Butcher.	
Beechwood Handles, 6-inch blade	25%
Beechwood Handle, 7-inch blade	25%
Beechwood Handles, 3-inch blade	25%
Cooper's Hoop	25%

Drawing.	
Standard	25%
Adjustable	25%
Barton's Carpenters'	25%

Hay.	
Iwan's Solid Socket	25%
Heath's	25%
Iwan's Stickie Edge	25%
Iwan's Imp'd Serrated	25%

Hedge.	
Challenge	25%
Disston's No. 1	25%

Putty.	
Common	25%
Lander's	25%

Scraping.	
Beech Handles	25%
Lander's	25%

KNOBS.	
Door.	
Mineral	per doz. \$2 00
Porcelain	" 2 00
Jet	" 2 00

LADDERS.	
Step.	
Common, per ft.	28c
Common, with Shelf, add 10c	
IXL	34c
Challenge, 6 to 9 ft.	55c
10 to 16 ft.	60c
Kant-Break, per lineal ft.	75c

LANTERNS.	
Per doz.	
Monarch tin, hot blast	\$ 26
Dietz No. 2 cold blast	13 00
Best tubular	8 25
Competition lanterns No. 0 tubular	6 90

LAWN MOWERS.	
12-inch	\$5 20
16-inch	5 85

Ball Bearing.	
4 blade, adjustable bearing.	
14"	\$5 20
16"	7 80

LEATHER BELTING.	
From No. 1 Oak Tanned Butts.	
Extra heavy, 18-oz.	35%
Heavy, 16-oz.	40%
Medium, 14 1/2-oz.	40%
Light, 13-oz.	50%

LEATHER LACING.	
Cut, strictly No. 1	45%

LEVELS.	
Disston, No. 28 Asst.	\$22 00
" No. 18, 20 in., each	1 30
" No. 22, 24 in., each	2 40
" Shafting, 6 in.	19 00
" " 6 in. gr. glass	24 30
" No. 1 Asst.	5 75
" No. 2 Asst.	12 40
" 24-26 in., each	1 02
" 28-30 in., each	1 00

LIFTERS.	
Stove Cover.	
Coppered	per gro. \$6 00
Alaska	" 4 75

LOCKS.	
Barn Door.	
No. 60 Stearns's	per doz. \$11 00
No. 80	" 20 00

MALLET.	
Carpenters'.	
Fibre Head No. 2, per doz.	\$12 00
" No. 3,	15 50
" No. 3 1/2,	20 50
Round Hickory, per doz.	\$3.0 00
Tinner's.	
Hickory	per doz.

MATS.	
Door.	
National Rigid	5 & 10 &
Acme Steel Flexible	1

MITRES.	
Galvanized steel mitres, and caps, and pieces, outlets	30%
Milcor	
Galv. one piece stamped	50%

MOPS.	
Cotton, Star (Cut Ends).	
Pounds 12' 15' 18' 24'-3-oz.	
Per doz. \$4 00 4 35 5 50 7 00	
Enterprise	16 1/2%
Parker	50 & 5%

NAILS.	
Cut Steel	\$4 55
Cut Iron	4 55
Wire.	
Common	3 55
Cement Coated	3 00

NETTING, POULTRY.	
Galvanized before weaving	45-10%
Galvanized after weaving	45%

NIPPERS.	
Nail Cutting.	
V. & B. No. 30	75c
Double Duty.	
V. & B. No. 64	\$1 02

NOZZLES.	
Hose.	
Diamond	per doz. \$5 75
Magic	" 9 50

OILERS.	
Chase Pattern.	
Brass and Copper	10%
Zinc Plated	40 & 5%

Railroad.	
Brass	20 & 5%
Coppered	50 & 5%

Steel.	
Copper Plated	70 & 5%

OPENERS.	
Delmonico	per doz. \$1 30
Never Slip	" 00

Crates.	
V. & B., per doz.	\$7 25-11 00